University of Chester

Understanding right from wrong: A quantitative study exploring accidental bullying in British school children.

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Supervisor: Professor Michael Boulton

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Declaration

This work is original and has not been submitted in relation to any other degree or qualification.

Date: 25 / 09 / 2018

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Acknowledgments

I would like to express my appreciation to my Supervisor, Professor Michael Boulton, for his support and guidance. Additionally, I would like to thank my Personal Academic Tutor, Dr. Hannah Heath, for her encouragement throughout my time at the University. Finally, I would also like to give a special thanks to the three schools that participated in this study; Castell Alun High School, Caereinion High School, and Morley Victoria Primary School.

University of Chester

Department of Psychology

Research Module Meeting Log 2017/2018

NAME: **Jessica Pritchard**

SUPERVISOR: **Professor Michael Boulton**

Date and Time	Discussion Topic	Action Agreed
23/01/2018 12:00-12:50	Discussed the field of bullying and planned for initial reading.	To begin wider reading and take note of any gaps in the literature.
31/01/2018 12:00-12:30	Discussed whether or not to replicate a similar studies. In addition to this, we spoke about best practice in making initial contact with schools.	To make a decision regarding a replication study.
07/02/2018 12:10-12:30	Decided against a replication study and discussed which specific areas of research the study should focus on.	To decide upon which measures should be implemented in the questionnaire.
14/02/2018 9:15 - 9:55	Discussed the chosen measures which including a moral disengagement scale and compassion scale.	To design a questionnaire implementing the chosen measures and begin work on the ethics application.
07/03/2018 9:15-10:00	The first draft of the ethics application was discussed and reviewed.	To make amendments to the ethics application and submit the form.
25/04/2018 9:15-10:00	Discussed best practice for data collection and gaining participant consent.	To design an age appropriate questionnaire.
20/06/2018 14:40-15:30	Discussed potential amendments to the ages of	To complete data collected and prepare for data analysis.

	participants as well as the research aims.	
03/07/2018 16:00	Email contact to gain consent to submit an ethical amendment application in order to increase the ages of the participants of the proposed study.	To submit the required documents to the ethics committee.
23/07/2018 11:30	Phone call to discuss entering data on to the SPSS file.	Create a SPSS data file ready for analysis.
27/07/2018 11:00-13:30	Discussed the process of analysing the data and best practice for writing up the dissertation.	Complete the data analysis and write the first draft of the dissertation.
12/09/2018 12:30- 13:45	Discussed preliminary analysis and ways to improve critical analysis.	Make initial amendment to the results section and prepare dissertation for the draft reading.
17/09/2018 11:00 – 11:40	Discussed feedback on the draft copy of the dissertation.	Make amendments in line with the feedback given.

STUDENT SIGNATURE:  **DATE:** 17/09/2018

SUPERVISOR SIGNATURE: _____ **DATE:** _____

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Understanding right from wrong: A quantitative study exploring accidental bullying in British school children.

Abstract

This study aimed to investigate a controversial new sub-type of bullying known as accidental bullying, which claims to explain why some children and young people can unknowingly bully others. This study did this by exploring possible causes including individual's abilities to recognise bullying, and levels of kindness and moral disengagement. A total of 421 participants (females: *n* = 19, males: *n* = 180, undisclosed: *n* = 48) completed questionnaires within Primary and Secondary British schools. The data was subjected to several forms of analyses that included Pearson's correlations, simple linear regression's, a hierarchical multiple regression, and a series of two-way between subjects ANOVA's. The findings identified that 84 % of the participants had previously accidentally bullied, and that primary school students were more likely to accidentally bully than secondary school students. In addition to this, an individual's poor ability to recognise bullying behaviours was found as a significant negative predictor of accidental bullying. Furthermore, if individuals have low levels of kindness and high levels of moral disengagement, they are more likely to have a poor ability to recognise bullying behaviours. In conclusion, this study identified that it is possible that accidental bullying is taking place within British schools at a higher frequency than traditional bullying. Future studies may wish to further understand the complexities of accidental bullying to support educators to identify and address this often hidden form of bullying.

Introduction

General Background

For the past 30 years, psychological research has investigated the phenomenon of bullying amongst children and young people (Menesini, Modena & Tani, 2009). Although, psychologists are still struggling to ascertain how seemingly 'good' and 'well behaved' children and young people can participate in bullying (Hymel, Rocke-Henderson, & Bonanno, 2005). This concern is intensified by the negative outcomes associated with bullying, and the pressure on practitioners to effectively intervene and combat bullying in schools (Safran, 2008; Raskauskas, Gregory, Harvey, Rifshana & Evans, 2010). Lee (2006) stated that the nature of bullying has changed with time and therefore, there is a need to revisit and revise the definition of bullying to identify emerging sub-types. This study will examine the development of a controversial new sub-type of bullying, known as accidental bullying. Accidental bullying is when a bully accidentally causes emotional or physical injury to a victim without the intent of causing harm (Boulton, Personal Communication). This investigation aims to understand if accidental bullying can help to explain why some students can unknowingly bully others, as well as explain the causes of this phenomenon.

During the instigation of bullying research, critics dubbed bullying as a tokenistic 'flavour of the month' for educators and psychologists (Mellow, 1995). Although three decades on, combating bullying has remained central to the educational agenda, and has continued to be a key discussion amongst

psychologists (Mellow, 1995). The contribution of psychological research has prompted the introduction of new school curriculums including the Social and Emotional Aspects of Learning (SEAL) programme, and an annual anti-bullying week to raise awareness of the issue (Smith, Kuperberg, Mora-Merchan, Samara, Bosley & Osborn, 2012; Young, Grey & Boyd, 2009). In addition to this, new policies have also been put in place to ensure that all schools implement measures to prevent bullying such as section 89 of the Education and Inspections Act 2006 (Department for Education, 2013).

This stream of practical implications has been derived primarily from evidence that has verified that bullying can lead to negative outcomes and psychological implications for bullies as well as victims (Swearer, Grills, Haye & Cary, 2004). This includes evidence indicating that bullying can inhibit a student's academic performance, and can lead to anxiety, depression, and loneliness (Buhs & Ladd, 2001; Due, Holstein, Lynch, Diderichsen, Gabhain, Scheidt, & Curri, 2005; Rigby & Slee, 1995). In particular for bullies, studies show that bullies are more likely to commit criminal behaviour in adulthood, which may be as a result of learning that aggressive behaviour can get them what they want (Fedar, 2007; Olweus, 1993). In addition to this, victims are more at risk of social exclusion, which may for some individuals be detrimental to their sense of belonging (Baumeister & Leary, 1995; Boulton, 2013). This can be understood as a fundamental human requirement within the need to belong theory which stated that humans want to belong and to be accepted by others (Baumeister & Leary, 1995).

Despite the negative outcomes that have now been associated with bullying, bullying was once simply disregarded as a natural stage that prepared children for adulthood, and did not cause any long term harm (Cartwright, 1995). However, in the early 1980's, the tragic suicide of three male victims of bullying in Norway drew the attention of international media (Espelage & Swearer, 2003). This soon led to an emergence of 'zero-tolerance' policies, the launch of multiple anti-bullying intervention programmes, and most importantly, the commissioning of a psychological research project led by Professor Olweus (Espelage & Swearer, 2003; Olweus, 1993: Warden & Mackinnon, 2003). Early bullying studies aimed to understand the frequency and consequences of bullying, as well as how to prevent it (Espelage & Swearer, 2003). Due to the limited availability of literature on bullying, early studies were heavily influenced by existing literature on aggression, and so bullying became identified as a subcategory of aggression (Buss, 1961; Olweus, 1993; Smith, Morita, Junger-Tas, Olweus, Catalano & Slee, 1999).

Today, traditional bullying is defined as a repetitive and intentional act to cause harm where an individual has power over another person (Olweus, 2011). Traditional bullying behaviours include verbal or physical abuse (Nansal, Overpeck, Pilla, Ruan, Simons-Morton & Scheidt, 2001; Prinstein, Boergers & Vernberg, 2002). In addition to this, a new sub-type of bullying which has emerged in recent years is known as Cyberbullying, and describes when an individual uses an electronic device to intentionally cause harm through insulting, threatening, and intimidating others (Smith & Slonje, 2010). Bullying is also believed to take place directly such as physical violence, or indirectly such as

social exclusion (Nansal et., 2001; Prinstein et al, 2002). Bullying research further suggested that there are seven identified roles in bullying (Olweus, 2001; Salmivalli, 2001). These include the victim who experiences the harm, the bully-victim who experiences being bullied as well as victimisation, and the bully who are often characterised as individuals who are aggressive and lacking in empathy (Duncan, 1999; Olweus, 2001). In addition to this, the more unknown roles include the reinforcer who encourages the bully through actions such as laughing, the assistant who enables the bullying by doing something such as holding down a victim, the defender who attempts to help the victim, and the outsider who distances themselves from the incident (Salmivalli, Lagerspetz, Bjorkgvist, Osterman & Kaukiainen, 1996; Salmivalli, 2001).

Lee (2006) stated that the existing bullying literature promotes a collection of clear definitions, key principles and all-inclusive phrases that describe bullying. This knowledge has helped psychologists to associate these key bullying principles with prominent theories (Lee, 2006). For example, the actions of bullies have been explained through the social learning theory as behaviours learnt through vicarious and operant conditioning mechanisms (Kolbert, Crothers & Field, 2006). In addition to this, evolutionary biologists have suggested that the motivations of bullying may be due to the need for groups to create dominance hierarchies and ‘pecking orders’ of social ranks (Kolbert & Crothers, 2003; Sagan & Druyan, 1992). However, concerns have been raised that due to a lack of consensus surrounding the central definition of bullying, the existing literature maybe misinforming theoretical understanding (Lee, 2006; Madsen, 1996; Maunder, Harrop & Tattersall, 2010). Therefore, the definition of bullying needs

to be revisited to examine the ecological validity of the key principles. This evidence provides a clear rationale for an investigation into new interpretations of the phenomenon of childhood bullying.

The rationale for Issue One: Conceptualising Accidental Bullying

The definition of bullying promoted by Olweus (2011) stated that intent to cause harm is an essential component of bullying. According to Lee (2006), intent can be defined as an act that is conscious, deliberate and willful. However, since the conceptualisation of bullying, researchers have questioned whether or not an altercation has to be intentional for an incident to be categorised as bullying (Sercombe & Donnelly, 2013). In addition to this, Goldsmid and Howie (2014) stated that the issue of intent as a key classification of bullying is problematic, as it relies on an individual having the ability to know whether they intended to cause harm. This belief is echoed by the findings of a study in 2006 that asked 225 teachers and 1820 high school students to define bullying in their own words (Naylor, Cowie, Cossin, de Bettencourt, & Lemme, 2006). The results showed that only 3.9 % of the students and 24.9 % of the teachers believed that bullying needed to be an intentional act (Naylor et al., 2006). This is a key development that demonstrates that bullying may not always be intentional and consequently, bullying could also be defined as an accidental act. Thus, providing a clear rational for further investigations into the validity of accidental bullying.

Furthermore, other studies have also obtained scientific evidence that some bullies may genuinely not understand the consequences of their actions,

thus proving that bullying can be accidental. For example, a study by Warden and MacKinnon (2010) investigated the social behaviour of 131 primary school students. Warden and MacKinnon (2010) noted that when some children disclosed about an incident that felt like bullying, the suspected bully was sometimes oblivious to the harm they had caused. Warden and MacKinnon (2010) also stated that when the child who had been accused of bullying were asked to explain their actions, they would reply that they were 'just playing or 'just having a joke'. The ramifications of studies such as this, are the practical implications that may emerge. Kochenderfer-Ladd and Pelletier (2008) agreed and stated that by applying the traditional bullying definition, some teachers may have inadvertently ignored bullying due to it not fulfilling the criteria of it being an intentional act (Kochenderfer-Ladd and Pelletier, 2008). However, by implementing the principles of accidental bullying, teachers may be better equipped to distinguish different forms of bullying. This is also a clear rationale that further investigation into the depiction of accidental bullying in British schools is needed.

Due to no existing literature on accidental bullying, psychologists are unable to conceptualise this new emerging sub-type of bullying until further scientific evidence is found. A review of traditional bullying literature showed that researches have benefited from understanding key characteristics of traditional bullying (Lee, 2006). For example, a study by Boulton and Underwood (1992) found that 17% of children had previously bullied others, and 21% of children had experienced victimisation of bullying. Furthermore, Bolton and Underwood (1992) also identified three common forms of bullying as hitting, kicking and teasing.

Hochman (2013) stated that this type of information could help to inform educators on how best to combat bullying in the classroom. Although, as the concept of accidental bullying is still developing, there is currently no literature that can inform researchers or educators on how to specifically address accidental bullying. Therefore, this is a significant gap in the bullying literature. In order to address these concerns, three research questions will identify evidence of perpetration and victimisation of accidental bullying, as well as highlight the most common forms of bullying behaviours within accidental bullying.

Table 1: A table to show the research questions for issue one.

Theme	**Type**	**Inquiry**
Accidental Bully	Research Question	1a) What percentage of children and young people have previously accidentally bullied?
Victim	Research Question	1b) What percentage of children and young people have experienced victimisation of accidental bullying?
Forms of Bullying	Research Question	1c) What is the most common form of accidental bullying?

Notes: The listed research questions are specific for issue one. Please see Appendix G to see all hypotheses and research questions together.

Rationale for Issue Two: Recognising Bullying Behaviours

Bullying often takes place within a broader social content with bystanders who witness bullying incidents (Bastiaensens, Vandebosch, Poels, Van Cleemput, Desmet & De Bourdeaudhujj, 2014; Simon & Nail, 2013). A study by O'Connell, Pepler and Craig (1999) recorded that 54 % of primary school pupils in their study negatively influenced a bullying incident by reinforcing the actions of a bully. A later study in 2016 that interviewed 24 secondary pupils, identified that bystanders only intervened when they witnessed physical violence (Patterson, Allan & Cross, 2016). Guerin and Hennessy (2002) believed that in these two studies, a possible reason for why the students reinforced the actions of bullies and only intervened when they witnessed a physical altercation, is because the students did not realise that what they were witnessing constituted as bullying. Therefore, a plausible explanation for accidental bullying is that children and young people are not able to recognise bullying behaviours.

According to Breslavs (2013), a person's conscience is defined as an individual's understanding of what is right and what is wrong. Previous studies have identified that while children's consciences are inclined to judge bullying as morally wrong, children are also prone to misinterpreting bullying behaviours (Card and Hodges, 2008; Thornberg, 2010). Jordan (2007) agreed and stated that individuals who are less morally sensitive, may be less able to recognise 'right from wrong' (Jordan, 2007). This motion was supported by a study by Barriga, Morrison, Liau, and Gibbs (2001) who found that students with less developed moral beliefs, are more likely to participate in anti-social behaviour

such as bullying. Therefore, this evidence suggests that students with a less developed understanding of what is right and what is wrong, may be most at risk of becoming an accidental bully. Furthermore, this evidence provides a clear rationale for why this matter requires further investigation to test the validity of its claims.

Guerin and Hennessy (2002) suggested that the current literature provides a number of well evidenced explanations to support the claims that individuals may not always be able to recognise bullying behaviours. One perspective is that individuals socially construct bullying differently and therefore, have different interpretations of what bullying looks like (Guerin and Hennessy, 2002). Hence, making accidental bullying an inevitable act due to different interpretations of what constitutes as bullying (Guerin and Hennessy, 2002). Another perspective is that some individuals are unable to recognise bullying behaviours due to capability difficulties. The social blindness model also suggested that a bully may have difficulties in interpreting social information which could result in a lack of social judgment and poor understanding of other's feelings (Kaukiainen, Bjorkgvist, Lagerspetz, Osterman, Salmivalli & Rothberg et., 1990). Bosworth, Espelage, and Simon (1999) further stated that due to social blindness, bullies might have a less developed working model of how to interact with other children and young people. Although, theorists of traditional bullying have criticised the social blindness model stating that bullies are highly socially intelligent and can identify the weaknesses of their victims to cause intentional harm (Swearer & Espelage, 2004). However, as accidental bullying is characterised by unintentional bullying, it is less likely that accidental bullies are socially adept as

suggested by Swearer and Espelage (2004). Taken together, this evidence provides a rationale that some bullies may not be able to recognise bullying behaviours which may consequently result in accidental bullying.

An alternative explanation is that individuals may exchange their individual interpretations of what bullying looks like to conform to a group perspective (Pennington, Gillen & Hill, 2016). The concept of conformity explains that individuals may accept new social norms to conform to the 'status quo' of a group (Pennington et al., 2016). An earlier study by Sherif (1935) that investigated the concept of conformity, asked participants to go into a dark room and record when they thought they saw a light move. Despite the study being criticised for lacking in ecological validity, the findings demonstrated that individuals are prone to changing their own beliefs to conform to the consensus of the crowd (Pennington et al., 2016). Further studies have identified that individuals are more likely to conform when they are feeling self-conscious, which is often most prevalent during adolescence (Elkind and Bowen, 1979; Oshimi, 2000). This, evidence suggests that due to social pressures, young people may be most at risk for adopting new social norms that may prevent them from recognising bullying behaviours. Taken together, this evidence provides a rationale that children and young people who are unable to identify bullying behaviours are likely to participate in accidental bullying. Therefore, the hypotheses for issue two predicts that an individual's ability to recognise bullying behaviours will be able to predict if an individual is likely to become an accidental bully.

Table 2: A table to show the hypotheses for issue two.

Theme	Type	Inquiry
Collective	Hypothesis	2a) That an individual's ability to recognise bullying behaviours will be able to predict if an individual is likely to participate in accidental bullying as a bully.

Notes: The hypothesis above is specific for issue two. Please see Appendix G to see all hypotheses and research questions together.

Rationale for Issue Three: Identifying Predictors

Over recent years, interventions programmes to combat bullying have had wavering success (Merrell, Gueldner, Ross, & Isava, 2008). Cook, Williams, Guerra, Kim & Sadek (2010) agreed and stated that whilst past interventions efforts have been able to raise awareness of bullying, the programmes have not always been able to change bullying behaviours. Although, it is widely believed that by understanding the key predictors of bullying, practitioners would be able to design more effective interventions that could address root issues (Cook et al., 2010; Goldstein, Whitlock & DePue, 2004). As previously discussed, there is past evidence to suggest that an individual's lack of ability to recognise bullying behaviours may result in accidental bullying (Kaukiainen et al., 1990). To

understand this issue further, two potential predictors of poor recognition will now be discussed.

The first potential predictor is empathy which can be described an individual's understanding and reaction when observing the experiences of another person (Davis, 1983). Eisenberg (2000) argued that there are two types of empathy which are known as affective empathy and cognitive empathy. Affective empathy is known as an individual's ability to identify and understand another person's emotions, and cognitive empathy is someone's ability to anticipate someone's emotions and reactions (Owusu & Zhou, 2015). Bacon, Burak, and Rann (2013) stated that empathy is an essential element of emotional intelligence, and someone's level of empathy can indicate how well they can socially interact. Smith and Thompson (1991) agreed and further stated that an individual's level of empathy can also affect the likelihood of prosocial behaviour. Consequently, it is widely recognised that an individual who has low levels of empathy is likely to inhibit anti-social behaviours such as bullying (Bacon et al., 2013; Smith & Thompson, 1991). This view is supported by Miller and Eisenberg (1988) who conducted a meta-analysis of 43 studies and identified a significant negative relationship between empathy and anti-social behaviour. Feshbach (1978) commented that theoretical perspectives of empathy should be applied to bullying intervention efforts to increase bully's levels of empathy and reduce levels of aggression.

Randall (1997) agreed and further identified a correlation between empathy and the principles of the social blindness theory. Randall (1997)

explained that as described in the social blindness theory, bullies are not always able to recognise bullying behaviours and perhaps this could be as a result of low levels of empathy. According to Singer and Klimecki (2012), individuals with a higher level of compassion are more likely to intervene when they see another person in distress, than an individual with a high level of empathy. Singer and Klimecki (2012) further stated compassion can be described as feelings of concern along with a motivation to do something to help. Therefore, as compassion is a stronger indicator than empathy, a study investigating an individual's compassion may provide greater understanding than testing an individual's empathy. Thus, providing a rationale that low levels of kindness could be a predictor for individuals not recognising bullying behaviour.

The second possible predictor is moral disengagement which is defined as a socio-cognitive process where an individual convinces themselves that their harmful actions are justifiable (Bandura, 1999, 2002). This enables them to commit harmful acts against other people without feeling emotions of guilt and shame (Bandura, 1999, 2002). Moral disengagement originates from Bandura's social cognitive theory of the moral self (Bandura, 1986, 1991). This theory suggested that moral reasoning is affected by an individual's self-regulatory mechanisms (Gini, 2006). Gini (2006) further stated that the self-regulatory mechanisms rewards moral actions by feelings of self-worth, and discourages immoral actions by feelings of self-condemnation (Gini, 2006). Although, moral disengagement interrupts this process, and cognitive mechanisms help to justify an individual's immoral actions and prevent any feelings of guilt or shame (Bandura, 2002). Bandura described the four main mechanisms that enable

moral disengagement as minimising agency, diminishing negative consequences, cognitive restructuring and blaming the victim (Bandura, 2002). Hymel et al., (2005) stated that this process provides a plausible explanation of how seemingly good students can participate in bullying. Thus suggesting, that some individuals may be accidentally bullying others as a result of the moral disengagement process. Taken together, this evidence provides a rationale that high levels of moral disengagement may predict that an individual has a poor ability to recognise bullying behaviours.

In addition to this, a study investigating bullying across 2000 pupils from 16 different schools identified that low levels of empathy and high levels of moral disengagement could collectively predict negative bystander behaviour (De Smet, Bastiaensens, Van Cleemput, Poels, Vandebosch, Cardon, & De Bourdeaudhuij, 2016). Therefore, this provides a rationale that the two discussed predictors could collectively as well as uniquely predict that an individual has a poor ability to recognise bullying behaviours. Furthermore, the hypotheses to address issue three are that low levels of kindness and high levels of moral disengagement will collectively predict that an individual has a poor ability to recognise bullying behaviours. In addition to this, the predictors will also account for a unique variance of an individual's ability to recognise bullying behaviours.

Table 3: A table to show the hypotheses for issue three.

Theme	Type	Inquiry
Collective	Hypothesis	3a) That low levels of kindness and high levels of moral disengagement through minimising agency, distorting negative consequences, and cognitive restructuring can collectively predict that an individual has a poor ability to recognise bullying behaviours.
Kindness	Hypothesis	3b) That low levels of kindness will account for a unique variance of an individual's poor ability to recognise bullying behaviour.
Minimising Agency	Hypothesis	3c) That high levels of minimising agency will account for a unique variance of an individual's poor ability to recognise bullying behaviour.
Distorting Negative Consequences	Hypothesis	3d) That high levels of distorting negative consequences will account for a unique variance of an individual's poor ability to recognise bullying behaviour.
Cognitive Restructuring	Hypothesis	3e) That high levels of cognitive restructuring will account for a unique variance of an

	individual's poor ability to recognise bullying behaviour.

Notes: The listed hypotheses are specific for issue three. Please see Appendix G to see all hypotheses and research questions together.

Rationale for Issue Four: Gender and Age Differences

Mitsopoulou and Giovazolias (2015) stated that researches of traditional bullying have agreed that there are gender and age differences within bullying and victimisation. In the past, identifying these gender and age differences have helped to enable practitioners to tailor the intervention programmes to the specific needs of students (Cook et al., 2010; Goldstein et al., 2004). Therefore, to support the conceptualisation of accidental bullying, there is a need to identify any gender and age differences.

Traditional bullying literature has repeatedly acknowledged the bullying behaviours of male bullies (Safran, 2008). In fact, Olweus (1978) originally defined bullying as the systematic abuse of one or more males against a male victim. Previous studies have supported Olweus (1978) original claims, and have identified that bullying is most prevalent amongst males who are likely to employ physical violence (Hartup, 2005). In addition to this, traditional bullying literature has also explored age differences and have found that bullying is more prevalent amongst younger students (Boulton & Underwood, 1992). Interestingly, these findings reflect the gender and age differences within empathy and moral

disengagement. For example, previous studies have consistently identified that older females have higher levels of empathy than younger males (Brewer & Kerslake, 2015; Parker, Saklofske, Wood, Eastabrook, & Taylor, 2005; Werth, Nickerson, Aloe, & Swearer, 2015). In addition to this, studies have also found that males have higher levels of moral disengagement than females (Obermann, 2011). Taken together, these findings suggest that young males are more likely to bully others, employ physical violence, have low levels of empathy and high levels of moral disengagement

Broader research has suggested that these gender and age differences may be explained by further understanding aggression. As previously stated, bullying derived from the theory of aggression (Smith et al., 1999). The bullying that is most commonly associated with younger male students could be described as a display of physical aggression (Bjoerkqvist, Lagerspetz, & Kaukjainen, 1996). Although, Kemper (1994) argued that physical aggression from males may also be present in adolescents due to hormonal changes during puberty. This physical display of aggression may also explain why males have higher levels of moral disengagement, as they have a higher need to morally disengage to enable them to cope with the physical violence they commit (Obermann, 2011). Previous studies have also identified that females are more likely to employ three alternative forms of aggression which can be described as relational, indirect and social (Swearer & Espelage, 2004). Craig (1998) argued that these forms of aggression are harder to measure than physical aggression. Craig (1998) further suggested that due to scientific measures not identifying indirect aggression from females, past studies may have wrongly concluded that males are more likely to

participate in bullying than females. Although, the alternative forms of aggression are also characterised by intentional actions that are purposeful and planned (Safran, 2008). Therefore, it is unlikely that females who are conducting these forms of alternative aggression, are likely to participate in accidental bullying.

Furthermore, this evidence suggests that younger males are more likely to accidentally bully others using physical violence, have less ability to recognise bullying behaviours of bullies, and have low levels of empathy, and high levels of moral disengagement. Although, due to the lack of research into the validity of accidental bullying, no previous studies can support the suggested gender and age differences within accidental bullying. Therefore, this provides a rationale to explain why further testing to identify the gender and age differences within accidental bullying is necessary. Thus, hypotheses will explore gender and age differences between accidental bullies, common forms of bullying, individual's abilities to recognise bullying behaviours, and levels of kindness, and moral disengagement. In addition to this, research questions will also identify if there are any interaction effects which may further explain the complexities of accidental bullying. In total 24 hypotheses and research question will address issue four. Whilst this may appear as a large number of inquiries, only eight two-way between studies ANOVA's will be needed to test the hypotheses and research questions. In addition to this, as the themes of the variables overlap, the results will help to provide a deeper exploration of this complex issue.

Table 4: A table to show the hypotheses and research questions for issue four.

Theme	**Type**	**Inquiry**
Accidental Bully	Hypothesis	4a) That male students will be more likely to participate in accidental bullying as a bully than female students.
	Hypothesis	4b) That primary school students will be more likely to participate in accidental bullying as a bully than secondary school students.
	Research Question	4c) Will there be an interaction effect between the gender and age of accidental bullies?
Verbal Bullying	Hypothesis	4d) That female students will be more likely to commit accidental verbal bullying than male students.
	Hypothesis	4e) That secondary school students will be more likely to commit accidental verbal bullying than primary school students.
	Research Question	4f) Will there be an interaction effect between the gender and age for accidental verbal bullying?

Physical Bullying	Hypothesis	4g) That male students will be more likely to commit accidental physical bullying than female students.
	Hypothesis	4h) That secondary school students will be more likely to commit accidental physical bullying than primary school students.
	Research Question	4i) Will there be an interaction effect between the gender and age for accidental physical bullying?
Recognising Bullying Behaviour	Hypothesis	4j) That female students will be more likely to have a better ability to recognise bullying behaviours than male students.
	Hypothesis	4k) That secondary school students will be more likely to have a better ability to recognise bullying behaviours than primary school students.
	Research Question	4l) Will there be an interaction effect between the gender and age of individuals with a high ability to recognise bullying behaviours?
Kindness	Hypothesis	4m) That female students will be more likely to have higher levels of kindness than male students.

	Hypothesis	4n) That secondary school students will be more likely to have higher levels of kindness than primary school students.
	Research Question	4o) Will there be an interaction effect between the gender and age of individuals with high levels of kindness?
Minimising Agency	Hypothesis	4p) That male students will be more likely to have low levels of minimising agency than female students.
	Hypothesis	4q) That secondary school students will be more likely to have low levels of minimising agency than primary school students.
	Research Question	4r) Will there be an interaction effect between the gender and age of individuals with high levels of minimising agency?
Distorting Negative Consequences	Hypothesis	4s) That male students will be more likely to have low levels of distorting negative consequences than female students.
	Hypothesis	4t) That secondary school students will be more likely to have low levels of distorting negative consequences than primary school students.

	Research Question	4u) Will there be an interaction effect between the gender and age of individuals with high levels of distorting negative consequences?
Cognitive Restructuring	Hypothesis	4v) That male students will be more likely to have low levels of cognitive restructuring than female students.
	Hypothesis	4w) That secondary school students will be more likely to have low levels of cognitive restructuring than primary school students.
	Research Question	4x) Will there be an interaction effect between the gender and age of individuals with high levels of cognitive restructuring

Notes: The listed hypotheses and research questions are specific for issue four. Please see Appendix G to see all hypotheses and research questions together.

Methods

Participants

The convenience sample consisted of 421 participants which included 193 females (46%), 180 males (43%), and 48 participants (11%) who did not declare their sex. The participants were recruited from years five and six from a Primary School in the north of England, and years seven, eight, and nine from two high schools in Wales. This sample included 50 year five pupils (12%), 54 year six pupils (13%), 66 year seven pupils (16%), 72 year eight pupils (17%), 173 year nine pupils (41%), and 5 pupils (1%) who did not declare which year group they belonged to. The research complied with the ethical code of the British Psychological Society and was approved by the Ethics Committee at the University of Chester (Appendix A). An amendment application was also submitted to the Ethics Committee to request an increase in the maximum age of participants which also received ethical approval (Appendix B).

Measures

The data were obtained using a 45-item questionnaire which comprised of two demographic questions, and two main sections. The first section included five novel hypothetical scenarios and 31 closed questions. The second section consisted of nine statements and three closed questions (Appendix C). For the purpose of this study, only 31-items were submitted for analysis (Appendix H).

Demographics. The questionnaire included two questions which ascertained the participant's gender and school year. This was to test if there were any significant differences between the gender and ages of the participants. No further demographic information was collected in order to maintain the anonymity of the participants.

Hypothetical Scenarios. The five novel hypothetical scenarios were created for the sole purpose of this study. The scenarios were created due to the lack of available scientific accidental bullying measures. A key aim of the scenarios was to give real life examples of different forms of accidental bullying such as verbal and physical bullying. Hughes and Huby (2004) supported the use of scenarios and stated that scenarios can enable participants to respond from the perspective of the characters or from their own experiences.

Table 5: A table to show the scenarios used in the questionnaire.

Name	Form	Scenario
A	Verbal	Ben's friends did not like Kyle, and used to call Kyle mean names. Ben liked Kyle, and did not agree with his friend's name calling, however Ben joined in with his friends because he did not want to be left out. Kyle was upset.

B	Physical	Beth and her friends were playing in the park with a football when Lucy walked by. Beth's friends did not like Lucy, however Beth and Lucy were friends. Beth's friends asked Beth to throw a ball at Lucy. Beth threw the ball, even though she really did not want to. Lucy was hurt.
C	Cyberbullying	Adam posted a picture on social media. Lisa's friends did not like Adam, however Lisa and Adam were friends. Lisa's friends posted mean comments on the photos. Lisa joined in with the mean comments because she did not want her friends to leave her out. Adam was upset.
D	Verbal	You're in the playground at break time and you hear Jack say something nasty about Billy's new haircut. Jack tells Billy that he was just joking and didn't mean it.
E	Verbal	You're in the playground at lunchtime and you hear Jane say a nasty comment about Beth's trainers. But Jane says "I was just joking".

Notes: See Appendix C for full questionnaire.

In the questionnaire, participants were asked to read the five scenarios, and then answer the 31 closed questions. For the purpose of this study, only 11 of those closed questions were used to create the four scales listed below (Appendix H).

Perpetrator of Accidental Bullying Scale. The purpose of this novel scale was to identify evidence of accidental bullying. The participants were asked five closed questions, and were given three response options which were “yes”, “no”, and “I’m not sure”. The participants were scored 0 for “no”, 0 for “I’m not sure”, and 1 for “yes”. This measure was scored on a 5-item scale of 0 to 5. A total score was calculated for each participant, and high scores indicated that individual’s had a high frequency of accidental bullying.

Table 6: A table to show the items used in the perpetrator of accidental bullying scale.

Name	Form	Question
A	Verbal	Have you ever called someone names before without meaning to upset them?
B	Physical	Have you ever hurt someone before without meaning to hurt them?
C	Cyberbullying	Have you ever said something hurtful online before without meaning to be nasty?

D	Verbal	Have you ever hurt anyone's feeling by saying a nasty comment that was meant as a joke?
E	Verbal	Have you ever made a nasty comment about what clothes someone else wears?

Notes: See Appendix C for full questionnaire.

Victim of Accidental Bullying Scale. This novel scale was created to identify evidence of victimisation of accidental bullying. The participants were asked five closed questions, and were given three response options which were "yes", "no", and "I'm not sure". The participants were scored 0 for "no", 0 for "I'm not sure", and 1 for "yes". This measure was scored on a 5-item scale of 0 to 5. A total score was calculated for each participant, and high scores indicated that individual's had a high frequency of victimisation of accidental bullying.

Table 7: A table to show the items used in the victim of accidental bullying scale.

Name	**Form**	**Question**
A	Verbal	Has anyone called you names before, but then they said that they did not mean to upset you?

B	Physical	Has anyone hurt you before, but then they said that they did not mean to hurt you?
C	Cyberbullying	Has anyone said mean things online to you before, but then they said that they did not want to upset you?
D	Verbal	Has anyone ever hurt your feelings by saying a nasty comment that was meant as a joke?
E	Verbal	Has anyone ever made a nasty comment about what you wear?

Notes: See Appendix C for full questionnaire.

Forms of Accidental Bullying Scale. This novel scale was created to identify the most common forms of bullying used by accidental bullies. The participants were asked two closed questions and were given three response options which were “yes”, “no”, and “I’m not sure”. The participants were scored 0 for “no”, 0 for “I’m not sure”, and 1 for “yes”. This measure was scored on a 2-item scale of 0 to 2. A total score was calculated for each participant, and high scores indicated that individual’s had a high frequency of accidental verbal and physical bullying.

Table 8: A table to show the items used in the forms of bullying scale.

Name	Form	Question
A	Verbal	Have you ever called someone names before without meaning to upset them?
B	Physical	Have you ever hurt someone before without meaning to hurt them?

Notes: See Appendix C for full questionnaire.

Recognising Bullying Behaviours Scale. The final novel scale was created to measure a participant's ability to identify bullying behaviours. The participants were asked five closed questions, and were then given three response options which were "yes", "no" and "I'm not sure". The participants were scored 0 for "no", 1 for "I'm not sure", and 2 for "yes". This measure was scored on a 5-item scale of 0 to 10. A total score was calculated for each participant and a high score indicated that an individual had an excellent ability to recognise bullying behaviours.

Table 9: A table to show the items used in the recognising bullying behaviours scale.

Name	Form	Question
A	Verbal	Do you think Ben is a bully for joining in, even though he did not want to?
B	Physical	Do you think Beth is a bully for joining in, even though she did not want to?
C	Cyberbullying	Was Lisa a bully for joining in, even though she didn't want to?
D	Verbal	Do you think Jack is a bully?
E	Verbal	Do you think that Jane is a bully?

Notes: See Appendix C for full questionnaire.

Child, Youth, and Adult Compassion Scale (Boulton, Personal Communication). The Child, Youth, and Adult Compassion Scale consists of a nine-item questionnaire which is organised into three sub-scales including kindness, indifference and mindfulness (Boulton, Personal Communication). This scale has been used in an undergraduate study at the University of Chester that

investigated accidental bullying. The study found that the subscale that measured levels of kindness successfully predicted accidental bullying. Therefore, this study has replicated this specific sub-scale. The participants were given three statements from the sub-scale and then given three response options which included “yes”, “no” or “I’m not sure”. The participants were scored 0 for “no”, 1 for “I’m not sure”, and 2 for “yes”. Participants were scored on a 3-item scale of 0 to 6. A total score was calculated for each participant, and a high score indicated that the participant had a high level of kindness.

Table 10: A table to show the items used in the kindness sub-scale.

Sub-scale	**Statement**
Kindness	If you see that someone is upset, would you feel like helping them?
	If another person has problems, would you want to do something to help them feel better?
	If someone is having troubles, would you try to show that you care about them?

Notes: See Appendix C for full questionnaire

Moral Disengagement Scale (Hymel, Rocke-Henderson & Bonanno, 2005). The Moral Disengagement Scale (Hymel et al., 2005) is an 18-item set of statements that are based on Bandura's theory of moral disengagement (Bandura, 2002). The 18 statements can be organised into four sub-scales that describes the different categories of moral disengagement (Hymel et al. 2005). For the purposes of this study, a shortened version of this scale was implemented in order to ensure that the length of the questionnaire was age appropriate for the participants. The shortened version comprised of nine statements from three sub-scales which included minimising agency, distortion of negative consequences, and cognitive restructuring. Each sub-scale had three statements and participants were given three possible response options which were "agree", "disagree" or "I'm not sure". The participants were scored 0 for "no", 1 for "I'm not sure", and 2 for "yes". The three sub-scales were scored on a 3-item scale of 0 to 6. The sub-scale totals were calculated and a high score in any of the sub-scales signified that a participant had high levels of either minimising agency, distorting negative consequences, or cognitive restructuring.

Table 11: A table to show the items used in the three sub-scales measuring moral disengagement.

Sub-scale	**Statement**
Minimising Agency	Adults at school should be responsible for protecting kids from being bullied.

	When I see another kid being bullied, there is nothing I can do to stop it.
	If another kid is being bullied, I should do something to stop it happening.
Distorting	Some kids need to get picked on to teach them a lesson.
Negative	Getting bullied can make kids toughen up.
Consequences	Some bullies are funny and they make school fun.
Cognitive	In my group of friends, bullying is okay.
Restructuring	Bullying is just a normal part of growing up
	If your friend is picking on someone, it is okay to join in

Notes: See Appendix C for full questionnaire

Procedure

The three schools that participated in the study were initially contacted by email (Appendix D). This was followed up by an informal conversation that explained the aims of the study. The researcher attended the schools and completed the questionnaires in class sizes of 20 to 60 pupils. To ensure the validity and reliability of the data collected, the researcher read out aloud an information sheet which gave instructions and guidance to the participants (Appendix E). This guidance included telling participants that the questionnaire was anonymous and that it was not a test. This was to encourage the participants

to answer honestly and to reduce any related anxiety that may negatively effect the participant's performance. In addition to this, the participants were also told that if they were unsure on how to answer a question, they could leave it blank or choose the option for "I'm not sure". This was to help the researcher to ascertain the accuracy of the participant's response. The Headteachers of the three schools were able to give consent on behalf the pupils of their school through their loco-parentis role. Although, participants were also informed that they were able to withdraw from the study at any time (Appendix E).

The questionnaire was then read aloud by the researcher so that the participants reading ability did not negatively affect the quality of their answers. The researcher ensured that the questionnaires were completed within quiet conditions to help the participants concentrate. Upon completion of the questionnaire, participants were thanked and asked to place the completed questionnaires into envelopes to ensure anonymity. The participants were then debriefed and given details of support services whom they could talk to if they found the topic of accidental bullying distressing (Appendix F). The questionnaires were then collected and analysed using the IBM SPSS programme.

Design

This study employed a quantitative approach to analyse the responses of the participants. The descriptive statistics were also established, and a reliability analysis was also conducted for the scale measuring a participant's level of

kindness. This was completed by obtaining the Cronbach's alpha (*a*) coefficient. The possible classifications included 'acceptable' for above 0.7, 'good' for above 0.8, and 'high' for above 0.9 (Pallant, 2013). The reliability analysis excluded the remaining variables as they only measured singular items and a minimum of two items are required to calculate a Cronbach's alpha (Pallant, 2013).

Issue One. In order to identify evidence of accidental bullying as well as commonly used forms of accidental bullying, the descriptive statistics were established. The total scores for the perpetration and victimisation scales were reviewed and anyone who had answered 'yes' to any of the items on the scales, were given an overall score of one for each scale. A frequency analysis then identified the percentage of participants who answered yes. A frequency analysis was also conducted on the forms of bullying scale to identify the percentages of participants who had accidentally verbally or physically bullied another person.

Issue Two. To address issue two, the data was subjected to a Pearson correlation and simple linear regression analysis. This was to determine whether an individual's ability to recognise bullying behaviours could predict if an individual is likely to become an accidental bully. The scale measuring an individual's ability to recognise bullying behaviours was selected as the predictor, and the variable stating if an individual has participated in accidental bullying as a bully was entered as the outcome variable.

Table 12: A table to show the main tests for issue two

Test	Type of Analysis	Outcome	Predictor
I	Pearson's Correlation	P	RB
II	Simple Linear Regression	P	RB

Notes: Variables abbreviated as "P" for perpetrator of accidental bullying, and "RB" for ability to recognise bullying behaviours.

Issue Three. The data was then subjected to a Pearson correlation, three simple linear regressions, and a hierarchical multiple regression analysis. This was to determine if low levels of kindness and high levels of minimising agency, distorting negative consequences, and cognitive restructuring, could collectively and uniquely predict if an individual has a poor ability to recognise bullying behaviours. The predictors were inputted as the four scales measuring kindness, minimising agency, distorting negative consequences, and cognitive restructuring. The outcome was the scale measuring an individual's ability to recognise bullying behaviours. For the hierarchical multiple regression analysis, four models were used to isolate each of the four predictors in a specific order (see table 13). These models firstly identified if the four predictors could collectively predict the outcome, secondly, highlighted the unique variance of each predictor, and thirdly, detected any overlap in between two or more of the predictors (Darren & Paul, 2012).

Table 13: A table to present the main tests for issue three.

Test	Type of Analysis	Outcome	Predictor
I	Pearson's Correlation	R	K + M + D + C
II	Simple Linear Regression	R	K
III	Simple Linear Regression	R	M
IV	Simple Linear Regression	R	D
V	Simple Linear Regression	R	C
VI	Hierarchical Multiple Regression	R	K + M + D + C
VII	Hierarchical Multiple Regression	R	K + M + D + C
VIII	Hierarchical Multiple Regression	R	K + M + D + C
IX	Hierarchical Multiple Regression	R	K + M + D + C

Notes: Variables abbreviated as "RB" for ability to recognise bullying behaviours of bullies, "K" for kindness, "M" for minimising agency, "D" for distorting negative consequences, and "C" for cognitive restructuring.

Issue Four. To address issue four, the data was subjected to a series of eight two-way between-subjects ANOVA's. Before any of the investigations, a Levene's test for homogeneity of variance was completed for each variable. The two independent variables (IV) were submitted as gender and age, and both had two levels. Gender's levels were female and male, and the levels for age were primary school and secondary school. The dependent variables (DV) changed for every test, and included the measures for accidental bullies, accidental verbal

bullying and accidental physical bullying. The remaining tests selected the dependent variables as the scales measuring a participants ability to recognise bullying behaviours, and levels of kindness, minimising agency, distorting negative consequences and cognitive restructuring. Pair-wise comparisons post hoc tests were also performed for any of the significant effects in order to identify how much the factor levels significantly differed from each other (Dancey & Reidy, 2007).

Table 14: A table displaying the main tests for issue four.

Test	**Type of Analysis**	**DV**	**IV**
I	Two-way ANOVA	P	A + G
II	Two-way ANOVA	VB	A + G
III	Two-way ANOVA	PB	A + G
IV	Two-way ANOVA	RB	A + G
V	Two-way ANOVA	K	A + G
VI	Two-way ANOVA	M	A + G
VII	Two-way ANOVA	D	A + G
VIII	Two-way ANOVA	C	A + G

Notes: Variables abbreviated as "P" for perpetrator, "VB" for verbal bullying, "PB" as physical bullying, "RB" for ability to recognising bullying behaviours, "K" for kindness, "D" for distorting negative consequences, "CR" for cognitive restructuring, "A" for age, and "G" for gender.

Results

The results of the study are presented below. Please view Appendix I for the SPSS outputs.

Reliability Analysis.

The kindness scale scored a Cronbach's alpha level of 0.83 which demonstrates a 'good' level of internal consistency.

Issue One.

All of the descriptive data for the four variables are presented in Table 15.

Table 15: A table to show the descriptive statistics for issue one.

	Variable	*n*	Yes (%)	No (%)
Experience	Bully	394	84 %	16 %
of bullying	Victim	396	94 %	6 %
Forms of	Verbal	411	70 %	30 %
bullying	Physical	414	66 %	34 %

Notes: These results can be found in Appendix I.

Research Question 1a. The descriptive statistics showed that 84 % of the participants reported that they had previously accidentally bullied another person on at least one occasion, and 16 % of the participants had never accidentally bullied another person.

Research Question 1b. The descriptive statistics showed that 94 % of the participants reported that they had been a victim of accidental bullying on at least one occasion, and 6 % of the participants had never experienced victimisation of accidental bullying.

Research Question 1c. The descriptive statistics showed that the most common form of bullying employed by accidental bullies was verbal bullying (70 %). This was followed by physical bullying (66 %).

Issue Two.

Table 16: A table to show the descriptive statistics for the variables in issue two.

Variables	**Descriptive Statistics**	***N***
Perpetration of Accidental Bullying	(*M*=.84, *SD*=.37)	394
Recognising Bullying Behaviours	(*M*=5.99, *SD*=2.90)	399

Notes: These results can be found in Appendix I.

Pearson Correlation Analysis. A Pearson's correlation analysis was employed to identify if there was a linear relationship between an individual's ability to recognise bullying behaviours, and being an accidental bully (Dancey & Reidy, 2007). The results showed that there was a significant negative relationship between an individual's ability to recognise bullying behaviours, and an individual participating in accidental bullying as a bully, (r (388) = -.20, p < .001).

Table 17: A table displaying the Pearson correlation analysis for issue two.

		B	**RB**
B	**Pearson Correlation**	1	-.203**
	Sig. (2-tailed)		.000
	N	394	388
RB	**Pearson Correlation**	-.203**	1
	Sig. (2-tailed)	.000	
	N	388	399

Notes: Variables abbreviated as "B" for accidental bully and "RB" for recognising bullying behaviour.

Simple Linear Regression. A simple linear regression analysis was conducted to test whether an individual's ability to recognise bullying behaviours could predict if an individual is likely to participate in accidental bullying as a bully. The

results showed that an individual's ability to recognise bullying behaviours significantly accounted for 4.1 % of the variance, (R^2 = .041, F (1, 386) = 16.61, p < .001).

Table 18: A table showing the results of the simple linear regressions for issue two.

Variable	Total Variance	R^2	F	β	p
RB	4%	0.41	16.61	-.203	.000

Notes: Variable abbreviated as "RB" for recognising bullying behaviour.

Issue Three.

Descriptive Statistics.

All of the descriptive statistics for the five scales are presented in Table 19. The descriptive statistics of the variables show that participants mostly reported a high ability to recognise bullying behaviours. This was followed by perceived high levels of kindness. The lowest scores were received from the scales measuring perceived levels of minimising agency, distorting negative consequences, and cognitive restructuring.

Table 19: A table to show the descriptive statistics for the variables in issues three.

Variables	Descriptive Statistics	*N*
Recognising Bullying Behaviours	(*M*=5.99, *SD*=2.90)	399
Kindness	(*M*=5.33, *SD*=1.45)	410
Minimising Agency	(*M*=3.72, *SD*=0.98)	406
Distorting Negative Consequences	(*M*=1.62, *SD*=1.73)	402
Cognitive Restructuring	(*M*=0.93, *SD*=1.30)	406

Notes: These results can be found in Appendix I.

Hypothesis 3a. The Pearson's correlation analysis showed that there was a significant positive relationship between an individual's ability to recognise bullying behaviours and levels of kindness, ($r\ (393)$ = 178, $p < .001$). In addition to this, there was a significant negative relationship between an individual's ability to recognise bullying behaviours, as well as distorting negative consequences ($r\ (386)$ = -.233, $p < .001$), and cognitive restructuring ($r\ (390)$ = -.215, $p < .001$). Although, there was not a significant relationship found between an individual's ability to recognise bullying behaviours, and minimising agency, (r (391) = -.020,

$p > .001$). Therefore, minimising agency will not be submitted for any further analysis.

Table 20: A table showing the results of a Pearson correlation analysis for issue three.

		R	K	M	D	C
R	**Pearson Correlation**	1	.178	.020	-.233	-.215
	Sig. (2-tailed)		.000	.700	.000	.000
	N	399	393	391	386	390
K	**Pearson Correlation**	.178	1	.259	-.347	-.391
	Sig. (2-tailed)	.000		.000	.000	.000
	N	393	410	403	401	405
M	**Pearson Correlation**	.20	.259	1	-.095	-.119
	Sig. (2-tailed)	.700	.000		.058	.018
	N	391	403	406	396	399
D	**Pearson Correlation**	-.233	-.347	-.095	1	.498
	Sig. (2-tailed)	.000	.000	.058		.000
	N	386	401	396	402	398
C	**Pearson Correlation**	-.215	-.391	-.119	.498	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000
	N	390	405	399	398	406

Notes: Variables abbreviated as "R" for ability to recognise accidental bullying, "K" for kindness, "M" for minimising agency, "D" for distorting negative consequences, and "C" for cognitive restructuring.

Simple Linear Regression. A series of three simple linear regression models were employed to investigate if low levels of kindness and high levels of negative consequences, and cognitive restructuring, could predict if an individual has a low ability to recognise bullying behaviours. The first model identified that levels of kindness accounted for 3.2% of the variance of an individual's ability to recognise bullying behaviours, (R^2 = .032, F (1, 391) = 12.80, p < .001). The second model exploring levels of moral disengagement through distorting negative consequences accounted for 5.4%, (R^2 = .054, F (1, 384 = 22.10, p < .001). The third model examining levels of moral disengagement through cognitive restructuring accounted for 4.6%, (R^2 = .046, F (1, 388 = 18.75, p < .001). These results showed that an individual's level of kindness, distorting negative consequences, and cognitive restructuring, can account for a significant amount of variance in an individual's ability to recognise bullying behaviours. The Beta (β) values also showed that distorting negative consequences provided the biggest contribution to an individual's ability to recognise bullying behaviours, followed by levels of cognitive restructuring and levels of kindness.

Table 21: A table presenting the results of a series of thee simple linear regressions for issue three.

Variable	Total Variance	R^2	F	*β*	*p*
K	3.2%	.032	12.80	.178	.000
D	5.2%	.054	22.19	-.233	.000
C	4.6%	.046	18.75	-.215	.000

Notes: Variables abbreviated as "K" for kindness, "D" for distorting negative consequences, and "C" for cognitive restructuring.

Hierarchical Multiple Regression. A hierarchical multiple regression analysis was then conducted to discover if the three independent variables could collectively and uniquely account for the variance of an individual's ability to recognise bullying behaviours.

Hypothesis 3b. The first model sought the unique variance of kindness. The scale measuring kindness was entered at stage one**,** the scale measuring distorting negative consequences at stage two, and cognitive restructuring at stage three. Kindness contributed significantly to the regression model, and accounted uniquely for 3.3% of the variance, ($R2$ = .033, F (1,380) = 12.90, p < .001). Adding distorting negative consequences also significantly contributed to the model, and added a further variance of 6.2% ($R2$ = .062, F (2,379) = 12.52,

$p < .001$). Finally, entering cognitive restructuring gave a collective variance of 7.3%, and significantly contributed to the model ($R2 = .073$, F (3,378) = 9.94, $p < .001$)

Hypothesis 3c. As the independent variable of minimising agency was not found as a significant predictor, no further analysis was completed.

Hypothesis 3d. The second model identified the unique variance of the distorting negative consequences variable. Distorting negative consequences was inputted at stage one, cognitive restructuring at stage two and kindness at stage three. Distorting negative consequences significantly contributed to the regression model, and had a unique variance of 5% ($R2 = .050$, F (1,380) = 19.91, $p < .001$). After cognitive restructuring was added, the collective variance increased to 6.6% and continued to significantly contribute to the regression model, ($R2 = .066$, F (2,379) = 13.47, $p <.001$). At the final stage, kindness was submitted into the model and significantly contributed with a total collective variance of 7.3% ($R2 = .073$, F (3,378) = 9.94, $p < .001$).

Hypothesis 3e. The third model established the unique variance of cognitive restructuring. The scale measuring cognitive restructuring was entered at stage one***,*** kindness added at stage two and distorting negative consequences at stage three. The cognitive restructuring variable significantly and uniquely contributed to the model, and had a total variance of 5 %*, (*$R2 = .050$, F (1,380) = 20.15, $p < .001$). Kindness was then added, and continued to significantly contribute to the model with a total variance of 6.2 %*, (*$R2 = .062$, F (2,379) =

12.42, $p < .001$). At stage three, distorting negative consequences was added and the collective variance rose to 7.3%, which significantly added to the regression model ($R2 = .073$, F (3,378) = 9.94, $p < .001$).

Table 22: A table presenting the hierarchical multiple regression for issue three.

Model	Step	Variables	Total Variance	R^2	F	*p*
1	1	K	3.3 %	.033	12.90	.000
	2	K + D	6.2 %	.062	12.52	.000
	3	K + D + C	7.3 %	.073	9.94	.000
2	1	D	5.0 %	.050	19.91	.000
	2	D + C	6.6 %	.066	13.47	.000
	3	D + C + K	7.3 %	.073	9.94	.000
3	1	C	5.0 %	.050	20.15	.000
	2	C + K	6.2 %	.062	12.42	.000
	3	C + K + D	7.3 %	0.73	9.94	.000

Notes: Variables abbreviated as "K" for kindness, "D" for distorting negative consequences, and "C" for cognitive restructuring.

Issue Four.

Levene's Test for homogeneity of variance. Before any investigations, the data was subjected to a Levene's test for homogeneity of variance which showed that tests VI, VII, and VIII, were not significant. Although, test's I, II, III, IV, V were significant. This means that the assumption of homogeneity of variance has been violated for these scales and therefore, the results should be treated with caution (Pallant, 2013).

Table 23: Series of seven Levene's test for homogeneity of variance.

Test	DV	IV	F	*p*
I	Perpetrators	Gender and Age	25.453	.000
II	Verbal Bullying	Gender and Age	15.894	.000
III	Physical Bullying	Gender and Age	15.853	.000
IV	Recognise Bullying Behaviours	Gender and Age	4.121	.007
V	Kindness	Gender and Age	8.393	.000
VI	Minimising Agency	Gender and Age	1.725	.161
VII	Distorting Negative Consequences	Gender and Age	2.114	.098
VIII	Cognitive Restructuring	Gender and Age	2.392	.068

Notes: Significance level at 0.05.

Two-way ANOVA investigating 4a, 4b, and 4c. All of the descriptive data for the three scales is presented in Table 24.

Table 24: A table to show the descriptive statistics of the gender and age of individuals who have previously accidental bullied.

	School Age		
Gender	**Primary School**	**Secondary School**	**Overall**
Female	(*M* = .92; *SD* =.27)	(*M* = .74; *SD* =.44)	(*M* = .78; *SD* =.42)
Male	(*M* = .93; *SD* =.25)	(*M* = .89; *SD* =.32)	(*M* = .90; *SD* =.30)
Overall	(*M* = .93; *SD* =.26)	(*M* = .81; *SD* =.39)	(*M* = .84; *SD* =.37)

Notes: These results can be found in Appendix I.

A two-way between subjects ANOVA investigated if there were any gender and ages differences in individuals who participate in accidental bullying as a bully. The main effect for gender was not statistically significant, (F (1, 347) = 3.00, p >.05). There was no observed difference between male students (M = .90; SD =.30) and female students (M = .78; SD = .42). The main effect for age was statistically significant, (F (1, 347) = 5.92, p <.05). The primary school students (M = .93; SD = .26) significantly scored higher than secondary school students (M = .81; SD = *.39*). In addition to this, no interaction effect was found between gender and age, (F (1, 347) = 2.24, p >.05)*. A* pairwise comparisons

post hoc test showed that there was a significant increase in mean difference for primary schools students (*MD* = 1.11, p < .05).

Two-way ANOVA investigating 4d, 4e, and 4f. All of the descriptive data for the three scales is presented in Table 25.

Table 25: A table to show the descriptive statistics of the gender and age of individuals who have accidental verbally bullied others.

	School Age		
Gender	**Primary School**	**Secondary School**	**Overall**
Female	(*M* = .73; *SD* =.45)	(*M* = .59; *SD* =.49)	(*M* = .62; *SD* =.49)
Male	(*M* = .83; *SD* =.38)	(*M* = .73; *SD* =.44)	(*M* = .76; *SD* =.43)
Overall	(*M* = .78; *SD* =.42)	(*M* = .66; *SD* =.47)	(*M* = .69; *SD* =.46)

Notes: These results can be found in Appendix I.

This test aimed to identify if there are any gender and ages differences in individual's who accidentally verbally bully other people. The results showed a significant main effect for gender, (F (1, 362) = 4.60, p <.05). The test identified that female students (M = .62; SD = .49) are significantly less likely to accidentally verbally bully others then male students (M = .76; SD = .43). The main effect for age was also significant (F (1, 362) = 4.18, p < 0.5) with primary school students (M = .78; SD = .42) more likely to accidentally verbally bully others than

secondary school students (*M* = .66; *SD* = .47). No interaction effect was observed between gender and age, (*F* (1, 362) = .14, *p* > 0.5). A pairwise comparisons post hoc test confirmed that there was a significant increase in mean difference for male students (*MD* = .119; *p* < 0.5) and primary school students (*MD* = .114; *p* < 0.5).

Two-way ANOVA investigating 4g, 4h, and 4i. . All of the descriptive data for the three scales is presented in Table 26.

Table 26: A table to show the descriptive statistics of the gender and age of individuals who have previously accidentally physically bullied others.

	School Age		
Gender	**Primary School**	**Secondary School**	**Overall**
Female	(*M* = .73; *SD* =.45)	(*M* = .52; *SD* =.50)	(*M* = .57; *SD* =.50)
Male	(*M* = .78; *SD* =.42)	(*M* = .72; *SD* =.45)	(*M* = .74; *SD* =.44)
Overall	(*M* = .76; *SD* =.43)	(*M* = .61; *SD* =.49)	(*M* = .65; *SD* =.48)

Notes: These results can be found in Appendix I.

This test explored gender and age differences between individuals who accidentally physically bully other people. These results showed a significant main effect for gender, (*F* (1, 364) = 5.12, *p* <.05). The results showed that female students (*M* = .57; *SD* = .50) were significantly less likely to accidentally physically

bully others then male students (*M* = .74; *SD* = .44). In addition to this, the main effect for age was also significant (*F* (1, 364) = 5.97, *p* < 0.5). The results showed that primary school students (*M* = .76; *SD* = .43) were significantly more likely to accidentally physically bully others than secondary school students (*M* = .61; *SD* = .49). No interaction effect was observed between gender and age, (*F* (1, 364) = 1.93, *p* > 0.5). A pairwise comparisons post hoc test identified a non-significant decrease in mean difference between female and male students (*MD* = -.172; *p* > 0.5) and a significant decrease in mean difference between primary school students and secondary school students (*MD* = -.531; *p* < 0.5).

Two-way ANOVA investigating 4j, 4k, and 4l. All of the descriptive data for the three scales is presented in Table 27.

Table 27: A table to show the descriptive statistics of the gender and age of individual's abilities to recognise bullying behaviours.

	School Age		
Gender	**Primary School**	**Secondary School**	**Overall**
Female	(*M* = 4.40; *SD* =3.10)	(*M* = 7.18; *SD* =2.39)	(*M* = 6.58; *SD* =2.80)
Male	(*M* = 4.12; *SD* =3.18)	(*M* = 5.80; *SD* =2.74)	(*M* = 5.38; *SD* =2.93)
Overall	(*M* = 4.26; *SD* =3.13)	(*M* = 6.53; *SD* =2.64)	(*M* = 6.01; *SD* =2.92)

Notes: These results can be found in Appendix I.

This two-way between subjects ANOVA was conducted to see whether there were any gender and age differences between student's abilities to recognise bullying behaviours. The analysis identified a statistically significant main effect for gender (F (1, 352) = 5.97, p < 0.5). The descriptive statistics indicated that female students (M = 6.58; SD = 2.80) have a significantly greater ability to recognise bullying behaviours than male students (M = 5.38; SD = 2.93). In addition to this, a significant main effect was also found for age. The results showed that secondary school students (M = 6.53; SD = 2.64) have a significantly greater ability to recognise bullying behaviours than primary school students (M = 4.26; SD = 3.13), (F (1, 352) = 42.88, p < 0.5). No interaction effect was observed between the gender and ages of the students, (F (1, 352) = 2.61, p > 0.5). The pairwise comparison post hoc tests identified that there was a significant increase in mean differences for females students (MD = .83; p < 0.5), and secondary school students (MD = 2.23; p < 0.5). Thus, this analysis indicated that female secondary school students are more likely to have a high ability to identify bullying behaviours, and male primary school students are more likely to have a low ability to identify bullying behaviours.

Two-way ANOVA investigating 4m, 4n, and 4o. All of the descriptive data for the three scales is presented in Table 24.

Table 28: A table to show the descriptive statistics of the gender and age of individual's levels of kindness.

	School Age		
Gender	**Primary School**	**Secondary School**	**Overall**
Female	(*M* = 5.72; *SD* =.91)	(*M* = 5.58; *SD* =1.09)	(*M* = 5.61; *SD* =1.05)
Male	(*M* = 5.56; *SD* =1.13)	(*M* = 5.18; *SD* =1.55)	(*M* = 5.27; *SD* =1.49)
Overall	(*M* = 5.64; *SD* =1.13)	(*M* = 5.39; *SD* =1.34)	(*M* = 5.45; *SD* =1.29)

Notes: These results can be found in Appendix I.

This next two-way between subjects ANOVA tested to see if there were any gender and sex differences between individual's levels of kindness. There was no significant main effect for gender (F (1, 364) = 3.31, $p > 0.5$), and no difference was observed between female students (M = 5.61; SD = 1.05), and male students (M =.5.27; SD = 1.49). There was also no statistically significant effect found for age, (F (1, 364) = 2.72, $p > 0.5$), and no difference was observed between primary school students (M = 5.64; SD = 1.13) and secondary students (M = 5.39; SD =1.34). In addition to this, no significant interaction effect was identified, (F (1, 364) = .585, $p < 0.5$). Therefore, no post hoc tests were justified.

Two-way ANOVA investigating 4p, 4q, and 4r:

This tests was no longer justified as minimising agency was not found as a significant predictor of accidental bullying,

Two-way ANOVA investigating 4s, 4t, and 4u. All of the descriptive data for the three scales is presented in Table 29.

Table 29: A table to show the descriptive statistics of the gender and age of individual's levels of distorting negative consequences.

	School Age		
Gender	**Primary School**	**Secondary School**	**Overall**
Female	(*M* = 1.80; *SD* = 1.83)	(*M* = 1.06; *SD* = 1.47)	(*M* = 1.22; *SD* =1.58)
Male	(*M* = 1.50; *SD* =1.62)	(*M* = 1.87; *SD* =1.68)	(*M* = 1.77; *SD* =1.67)
Overall	(*M* = 1.65; *SD* =1.72)	(*M* = 1.43; *SD* =1.62)	(*M* = 1.48; *SD* =.1.65)

Notes: These results can be found in Appendix I.

This test investigated if there were any gender and sex differences between individual's levels of moral disengagement through distorting negative consequences. This test identified that the main effect for gender was not statistically significant, (*F* (1, 353) = 1.56, *p* > 0.5). The results showed no significant differences between the levels of male students (*M* = 1,77; *SD* = 1.67) and female students (*M* =1.22; *SD* = *1.58*). The main effect for age was also not significant, (*F* (1, 353) =.92, *p* > 0.5). The primary school students scored (M = 1.65; *SD* = 1.72) and secondary students scored (*M* = 1.43; *SD* = *1.62*). Although, a significant interaction effect was identified, (*F* (1, 353) = 7.76, *p* < *0.5)*. This interaction effect identified that in primary school, female students (*M* = 1.80; *SD*

= *1.83*) are more likely to distort negative consequences than male students (*M* = 1.50; *SD* = *1.62*). However, in secondary school, male students (*M* = 1.87; *SD* = *1.68*) are more likely to distort negative consequences than female students (*M* = 1.05; *SD* = *1.47*).

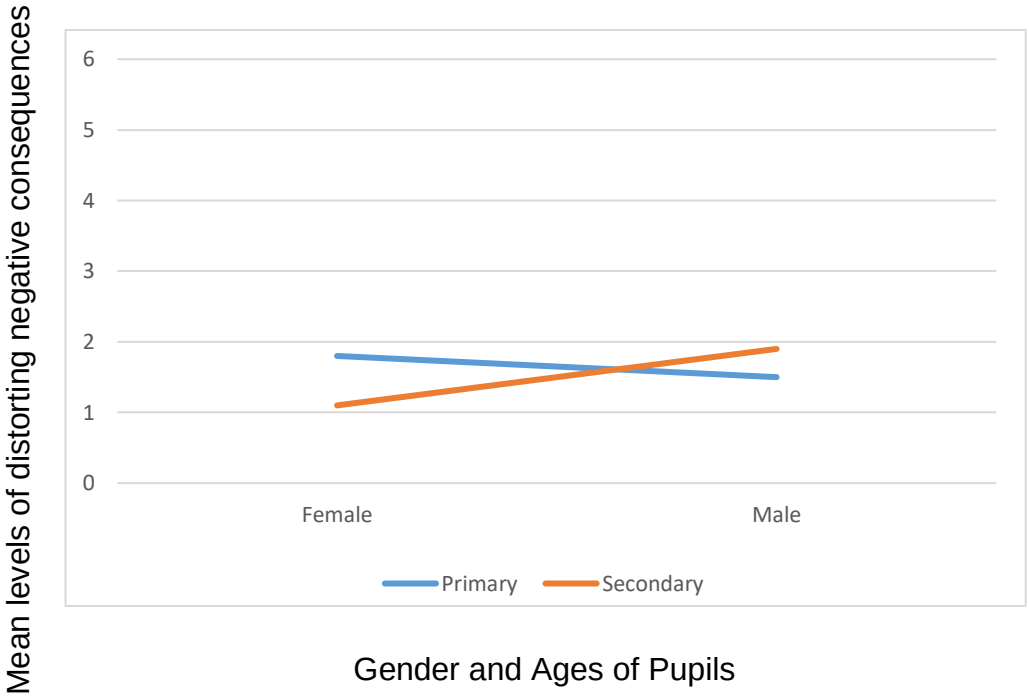

Figure 1: A graph to show the interaction effect between the gender and age differences of student's levels of distorting negative consequences.

Two-way ANOVA investigating 4v, 4w, and 4x. All of the descriptive data for the three scales is presented in Table 30.

Table 30: A table to show the descriptive statistics of the gender and age of individual's levels of cognitive restructuring.

	School Age		
Gender	**Primary School**	**Secondary School**	**Overall**
Female	(*M* = .83; *SD* =.99)	(*M* = .66; *SD* =1.05)	(*M* = .70; *SD* =1.03)
Male	(*M* = .93; *SD* =1.13)	(*M* = .91; *SD* =1.33)	(*M* = .91; *SD* =1.28)
Overall	(*M* = .88; *SD* =1.06)	(*M* = .78; *SD* =1.19)	(*M* = .80; *SD* =1.16)

Notes: These results can be found in Appendix I.

The final two-way between subjects ANOVA tested to see if there were any gender and sex differences between an individual's levels of moral disengagement through cognitive restructuring. This test identified that the main effect for gender was not statistically significant, (F (1, 356) = 1.44, $p > 0.5$). There was no significant difference between female students (M = .70; SD = 1.03), and male students (M =.91; SD = 1.28). Similarly, the main effect for age was also not significant, (F (1, 356) =.47, $p > 0.5$). No significant difference was observed between primary school students (M = .88; SD = 1.06) and secondary school students (M = .78; SD = 1.19). In addition to this, no significant interaction effect was identified, (F (1, 356) = .26, $p < 0.5$). Therefore, no post hoc tests were justified (Dancey & Reidy, 2007).

Discussion

The overall aim of this study was to investigate the validity of accidental bullying, which is characterised by a bully who causes unintentional harm. Due to the lack of previous studies, the predictions of this study derived from traditional bullying literature, as well as broader research. In order to capture the complexities of accidental bullying, novel measures were designed, and implemented into the study. The hypotheses and research questions were tested by collecting questionnaire responses from a convenience sample of 421 students from primary and secondary schools in England and Wales. The following findings were obtained through several forms of analyses that included Pearson's correlations, simple linear regressions, a hierarchical multiple regression, and a series of two-way between subjects ANOVA's.

Discussion for Issue One: Conceptualising Accidental Bullying

Issue one sought to establish descriptive statistics in order to conceptualise accidental bullying. Research questions 1a and 1b asked what percentage of children and young people have accidentally bullied others, and have experienced victimisation of accidental bullying. Research question 1c further asked whether unintentional verbal or physical bullying was most commonly used by accidental bullies. In response to research questions 1a and 1b, descriptive statistics ascertained that 84 % of the participants had accidentally bullied another person on at least one occasion, and 94 % of the participants had previously experienced victimisation of accidental bullying. These results are

inconsistent with traditional bullying studies that suggested that only 17% of children and young people had previously bullied others, and only 21% of children and young people had experienced victimisation of bullying (Boulton & Underwood, 1992). This finding suggests that accidental bullying occurs more frequently than traditional bullying. Therefore, it could be argued that accidental bullying should be a priority for educators, and preventative measures need to be put in place to reduce accidental bullying. Although, it could be argued that as Boulton and Underwood's (1992) study took place almost 25 years ago, the frequency of traditional bullying may have also increased over time. Therefore, further investigation is needed to compare the differences between traditional bullying and accidental bullying in today's British schools.

Whilst there are differences between the present studies findings and previous literature, it should also be noted there are some recognisable similarities. Firstly, the present study and Boulton and Underwood's (1992) study both identified higher number of victims than bullies. A plausible reason for this is that on certain occasions, bullies may not have realised that they had bullied anyone, and so did not report bullying incidents during the research tasks. If this is correct, this also provides additional evidence that accidental bullying exists. This supports the view of Goldsmid and Howie (2014) that stated that bullying research relies on the self-awareness of the bully. Therefore, as disclosures from accidental bullies may not always be accurate, perhaps future studies may need to pay more attention to the experiences of the victims. Secondly, research question 1c identified that 70 % of the participants disclosed that they had participated in unintentional verbal bullying, and 66 % admitted to participating in

unintentional physical bullying. These results are consistent with the findings of Rivers and Smith (1994) who also identified that verbal aggression occurs more frequently than physical aggression within traditional bullying. This finding suggests that accidental bullies and traditional bullies use similar forms of bullying to cause harm to their victims. Therefore, current intervention efforts for combatting bullying behaviours may be appropriate for addressing both traditional bullying and accidental bullying.

Discussion for Issue Two: Recognising Bullying Behaviours

In response to issue two, hypothesis 2a aimed to understand if accidental bullying could be explained by an individual's lack of ability to recognise bullying behaviours. A Pearson's correlation and a simple linear regression identified a significant negative relationship between an individual's ability to recognise bullying behaviours, and an individual who accidentally bully's others. Thus, indicating that a poor ability to recognise bullying behaviours is a predictor of accidental bullying. This finding supported the view of Barriga et al., (2001) who believed that individuals are more likely to participate in bullying if they struggle to understand appropriate behaviour. Although, it is worth noting that Barriga et al,'s (2001) study recruited older participants who were aged between 16 and 19 years old. Therefore, this suggests that the finding of Barriga et al., (2001) may also be applicable for the younger age group of this present study.

The finding of issue two also supports the principles of the social blindness model, that suggested that bullies do not always understand critical social

information (Randall 1997). However, the findings of issue two contradicts the traditional characterisation of a bully that is portrayed in existing bullying literature. For example, bullies are often described as intentionally aggressive and socially adept (Olweus, 1993). Although, the results of this study suggested that accidental bullies are individuals who cause unintentional harm due to not understanding social situations. Therefore, the findings of issue two have not only provided a credible reason of why accidental bullying takes place, but also suggested that there is a need to understand the persona of an accidental bully. This has possible implications as it may explain why practitioners find it hard to identify accidental bullies, as they do not fulfil the criteria of a traditional bully.

Discussion for Issue Three: Identifying Predictors

Issue three intended to identify key predictors that may contribute to an individual's poor ability to recognise bullying behaviours. Hypothesis 3a predicted that low levels of kindness and high levels of moral disengagement could collectively predict that an individual would have a poor ability to recognise bullying behaviours. Furthermore, hypotheses 3b, 3c, 3d, and 3e predicted that low levels of kindness, and high levels of the sub-types of moral disengagement, could account for a unique variance of an individual's ability to recognise bullying behaviours. Firstly, in relation to hypothesis 3b, a Pearson's correlation identified that there was a significant positive relationship between an individual's ability to recognise bullying behaviours and levels of kindness. This indicates that it is likely that an individual with a high level of kindness will also have a high ability to recognise bullying behaviours, and is therefore, less likely to accidentally bully.

This finding is reflected in a study by Barhight, Hubbard, and Hyde (2013) who recruited 79 primary school children to watch bullying videos within a laboratory setting. The aim of the study was to identify a correlation between an individual's heart rate, and a likelihood that they would intervene in a bullying situation. The study identified that individuals with greater empathy had a higher heart rate acceleration, and were more likely to intervene in a bullying situation (Barhight et al., 2013). Although, the methodology employed in the study has been challenged by Rigby and Johnson (2006) who stated that the use of hypothetical bullying videos lack ecological validity, and may not represent the reality of a classroom environment. Therefore, as this present study implemented hypothetical scenarios, the study may have lacked ecological validity, and therefore, the findings may be in accurate.

The Pearson's correlation also identified that there was a significant negative relationship between an individual's ability to recognise bullying behaviours, and an individual's levels of distorting negative consequences and cognitive restructuring. Thus, supporting the original hypothesis that an individual with high levels of moral disengagement, is likely to have a low ability to recognise bullying behaviours. These two mechanisms of moral disengagement specifically refer to when an individual distorts the negative consequences of a situation by distracting themselves from the harm they are causing, and when an individual cognitively restructures an incident to justify their actions and to present themselves in a more favourable light (Hymel et al., 2005). This finding has been supported by Almeida, Correia, and Marinho (2010) who investigated the levels of moral disengagement in 292 Portuguese teenagers. The study identified that

teenagers who bullied had higher levels of moral disengagement. However, the Pearson's correlation also concluded that moral disengagement through minimising agency is not a significant predictor of a person's ability to recognise bullying behaviours. This does not support a previous claim by Hymel et al., (2005) who identified that minimising agency was a significant predict of bullying. Although, this study was measuring negative bystander involvement and therefore, this may explain the differences in the results. According to Obermann (2011), minimising agency refers to somebody who attempts to reduce their personal responsibility. Therefore, a plausible explanation of why this element of moral disengagement did not correlate is because accidental bullies have no need to minimise agency, as they do not realise they are doing anything wrong. If this is correct, this non-significant predictor may also support provide evidence of accidental bullying.

In addition to this, hypothesis 3b, 3d, and 3e predicted that and individual's levels of kindness and distorting negative consequences, and cognitive restructuring, would be able to account for a unique variance of an individual's ability to recognise bullying behaviours. A hierarchical multiple regression identified that an individual's levels of distorting negative consequences, and cognitive restructuring made the greatest contribution to a person's ability to recognise bullying behaviours. Thus, showing that moral disengagement effects an individual's ability to recognise bullying behaviours more than kindness. This finding is inconsistent with existing bullying literature that promotes the importance of supporting children's development of empathy (Almeida et al., 2010). Although, this finding is consistent with a study by Almeida et al., (2010)

who identified that high levels of moral disengagement had a greater effect on bullies than low levels of empathy. Therefore, it is essential that intervention efforts focus on reducing high levels of moral disengagement, as well as increasing levels of kindness.

To further respond to the hypothesis of 3a, it was expected that low levels of kindness, and high levels of moral disengagement would not only uniquely predict an individual's ability to recognise accidental bullying, but they would also be able to collectively predict the outcome as well. The findings of the hierarchical multiple regression analysis identified that low levels of kindness and high levels of distorting negative consequences, and cognitive restructuring could collectively predict that an individual would have a poor ability to recognise bullying behaviours. This finding is consistent with the study of De Smet et al., (2016) who identified that low levels of empathy and high levels of moral disengagement could collectively predict negative bullying behaviours. Although, it could be argued that hypothesis 3a was only partly supported by past studies. As previously discussed, minimising agency was not a significant predictor, and therefore, it did not collectively predict the outcome along with the other variables. Consequently, this result is inconsistent with existing literature on moral disengagement as not all elements of moral disengagement appear relevant to accidental bullying. Future studies investigating accidental bullying may wish to replicate this study in order to test the validity and reliability of this motion.

Discussion for Issue Four: Gender and Age Differences

Issue four explored the potential gender and age differences that may further explain the complexities of accidental bullying. To respond to issue four, eight two-way between subjects ANOVA's were conducted to test sixteen hypotheses and eight research questions. In response to 4a, no significant gender difference was identified and therefore, the analysis did not support the previous prediction that male students were more likely to accidentally bully others than female students. This also contradicts existing bullying literature which has consistently identified that males are more likely to participate in bullying than females (Barriga et al., 2001; Boulton & Underwood, 1992; Jolliffe & Farrington, 2007; Lane, 1989). This suggests that accidental bullying is committed by males and females. Alternatively, this study may have failed to identify a gender difference, and therefore, further research could continue to investigate gender differences within accidental bullying. Thus, until further research is completed, this result suggests that intervention efforts should focus on supporting female and male students.

In response to 4b, it was identified that primary school children were more likely to accidentally bully than secondary school children. This finding supports existing bullying literature that suggested that adolescents are prone to being more pro-social than younger pupils due to developing a stronger sense of moral judgement (Harter, 1993). Although, this finding contradicts the belief that bullying peaks during adolescence due to hormonal changes (Kemper, 1994). Therefore,

this finding could suggest that social intelligence and moral characters is a greater influence on bullying than other biological explanations.

Issue four also investigated gender and age differences within the accidental verbal and physical bullying. The findings responding to hypotheses 4d and 4g stated that females are more likely to accidentally verbally bully others more than males, and males are more likely to physically bully others than females. This supports existing bullying literature as it is widely acknowledged that females are more likely to commit verbal bullying than physical bullying (Espelage et al., 2004). According to Espelage et al., (2004), this may be due to females possessing an alternative form of aggression which can be described as relational, indirect and social aggression. However, this form of bullying has been characterised by being a hidden but intentional form of harm (Safran, 2008). Therefore, this form of bullying that is promoted within tradition literature does not comply with the key principle of accidental bullying, as it is intentional. Thus, further research could explore the different forms of aggression that may exist within accidental bullying.

In response to hypotheses 4e and 4h, primary school students were more likely than secondary school students to accidentally verbally or physically bully others. This result supports the findings of hypothesis 4b that stated that primary school students are more likely to participate in accidental bullying than secondary school students. This also supports the motion that bullying decreases as students get older due to teenagers ‘growing out’ of the need to bully (Smith, Madsen, and Moody, 1999). The existing bullying literature also stipulates that

physical and verbal bullying is more common within primary schools than secondary schools due to individuals developing their social intelligence (Espelage et al., 2004). Therefore, interventions efforts should focus on developing children's social intelligence within primary school to prevent accidental bullying from occurring.

In order to understand the factors that may predict accidental bullying, the gender and age differences within individual's abilities to recognise bullying behaviours, levels of kindness and moral disengagement will now be discussed. In response to hypotheses 4j and 4k, it was identified that female secondary pupils have a higher ability to recognise bullying behaviours. This finding is supported by a study by Hochman (2013) who recruited 225 secondary school students to complete peer reviewed questionnaires. The results showed that the female students were more likely to identify bullying behaviours and want to intervene (Hochman, 2013). In addition to this, a 32 month study by Parker et al.,(2005) identified that emotional intelligence can increase with age, and therefore, secondary school students are more likely to recognise bullying behaviours than primary school students. Therefore, these initial results suggest that the following tests should show that female secondary school students have higher levels of kindness.

However, hypotheses 4m, and 4n did not identify any significant gender or age differences between the participants levels of kindness. In addition to this, hypotheses 4s, 4t, 4v, and 4w that investigated gender and age differences within distorting negative consequences and cognitive restructuring, did not find any

significant gender or age effects. Therefore, this study does not reflect the existing literature. Although, past studies have consistently found that older females have higher levels of empathy (Jolliffee & Farrington, 2007; Parker et al., 2005). Similarly, existing bullying research suggested that young male students are more likely to have higher levels of moral disengagement as they are more prone to physical violence (Kemper, 1994; Obermann, 2011). Taken together, this information suggests that whilst female students in secondary schools are better at recognising bullying behaviours, there is no other identified gender or age group that would specifically benefit from intervention efforts to increase levels of kindness or reduce levels of moral disengagement. Therefore, intervention programmes should target all gender and age groups until future research could provide further guidance.

Furthermore, issue four also asked eight research questions to ascertain whether there are any interaction effects between the gender and ages of the individuals for each variable. However, only one interaction effect was found which was in response to question 4u, and showed that female students were more likely to distort negative consequences within primary school, and male students were more likely to distort negative consequences within secondary school. However, this result is supported by Parker et al., (2005) who identfied that emotional intelligence can develop with age. Therefore, a plausible explanation is that as females get older, their emotional intelligence increases faster than males which may explain why females are less likely to distort negative consequences in secondary school.

Theoretical and Practical Implications

As presented in issue one, the results of this study captured evidence of accidental bullying within British schools. This evidence contradicts the definition of Olweus who defined bullying as an intentional act (Olweus, 2011). Although, the results reflect Naylor et al's., (2006) study that identified that 96 % of the children and young people in their study did not believe that bullying had to be intentional. Canty, Stubbe, Steers and Collings (2016) suggested that a possible reason for the inconsistency between the views of traditional and accidental bullying, is that Olweus's definition has been written by adults. Clark and Statham (2005) agreed and stated that children and young people are the experts about the issues that they face, and they need to be listened to in order that psychological theories can gain ecological validity. Therefore, there is a need to revise the theoretical understanding of bullying in order that the theories reflect the experiences of children and young people today.

In response to issue two, the findings of the study have indicated that accidental bullies struggle to understand social situations, which contradicts the traditional portrayal of a traditional bully. This present study's findings support the principles of the social blindness model which suggested that an individual may bully others due to a lack of social understanding (Kaukiainen, Bjorkgvist, Lagerspetz, Osterman, Salmivalli & Rothberg et., 1999). Although, it does not support alternative theoretical models that other bullying literature promotes. For example, it contradicts the social skill deficit model that believed that bullies intentionally implement strategies to gain dominance over their victim

(Kaukiainen et al., 1999; Smith, Madsen, & Moody, 1999). It is also inconsistent with the social intelligence model that also portrays bullies as socially adept individuals who can identify social cues (Espelage, Mebane, & Swearer, 2004). In addition to this, it also contradicts the theory of mind model that stated that bullies have the cognitive abilities to manipulate and control others (Espelage et al., 2004; Kaukiainene et al., 1999). Thus, it could be argued that an accidental bully may not 'fit into' the traditional portrayal of a bully. Therefore, alternative theories such as the social blindness model need to be implemented to explain the characterisation of an accidental bully.

Issue three identified that an individual's level of kindness and moral disengagement could affect the likelihood of an individual's ability to recognise bullying behaviours. Although, Hindriks (2015) reported that moral disengagement is closely associated with the concept of cognitive dissonance. The cognitive dissonance theory originated from Leon Festinger (1957) who believed that cognitive dissonance is when two cognitions contradict each other and as result, the individual experiences feelings of guilt and shame. For example, Craig and Pepler (1997) suggested that bystanders observing bullying may experience cognitive dissonance when they want to intervene, but they do not do anything to stop the incident. A Bangladeshi study that recruited 1452 secondary school pupils investigated moral disengagement within bullying scenarios, and identified that pupils experienced a degree of cognitive dissonance due to reported feelings of guilt and shame. In order to conceptualise accidental bullying further, future studies could research whether accidental

bullies experience a degree of cognitive dissonance by measuring feelings of guilt and shame.

A key discussion of issue four was individual differences within emotional intelligence. Jolliffe and Farrington (2007) stated that females are more likely to have higher levels of emotional intelligence than males. Previous studies have interpreted bullying gender differences as males are more prone to physical aggression due to their low levels of emotional intelligence, and females are prone to alternative forms of aggression due to their high levels emotional intelligence (Felix & McMahon, 2007; Espelage et al., 2004). In addition to this, a study by Smith and Boulton (1989) investigated the rough and tumble play of children and questioned whether this form of play served as a method of developing key social skills, or as a manipulative method to gain power. It could be argued that this argument represents the confusion between the traditional bully and the accidental bully. Therefore, there is a need for future studies to clearly differentiate between these two opposing bully portrayals.

Simon and Nail (2013) suggested that as bullying remains a key issue, continued research is needed in order that practitioners can provide a more targeted approach to tackle bullying. In 1993, Olweus stated that there was a need for anti-bullying education programmes. This statement led to a multitude of projects which has resulted in innovation fatigue for many practitioners (Danielson & Emmers-Sommer, 2016; Lee, 2006) Although, this present study's findings has identified several practical implications that may help to address two key areas of accidental bullying. These include the need to improve how bullying

is conceptualised, and the need to improve how root causes are addressed to prevent future accidental bullying (Danielson & Emmers-Sommer, 2016; Ma, Stewin, & Mah, 2001).

Firstly, Farrington (1993) stated that anti-bullying programmes need to carefully consider how they define bullying. Farrington (1993) further stated that how a practitioner defines bullying can shape how children and young people go on to identify and interpret bullying behaviours. For example, as identified in issue one, if children and young people can understand that bullying can be unintentional, it may help them to better understand their experiences as a bully, bystander or victim of accidental bullying. Weick's (1993) stated that sensemaking is a process where individuals try to understand and make sense of their experiences. Danielson and Emmers-Sommer (2016) further stated that sensemaking activities could help to reframe the attitudes of the students. Taken together, this evidence supports the motion that defining bullying is an essential part of anti-bullying programmes that could help students to identify and report accidental bullying. In addition to this, a recent study by Maunder and Crafter (2018) stated that the teacher's ability to recognise bullying is dependent on a student presenting typical bullying behaviours. This view is specifically relevant to the finding in issue two which discussed that traditional and accidental bullies have different personas. For example, whilst traditional bullying literature stipulates that bullies are mainly male, the findings of issue four identified that accidental bullies may be male or female. Maunder and Crafter (2018) further suggested that schools need to get rid of fixed definitions in order that no bullying

goes unnoticed. Therefore, schools need to review how they define bullying in order that they can expose even more discreet forms of accidental bullying.

The second issue is that anti-bullying programmes do not always address root issues of bullying (Danielson & Emmers-Sommer, 2016; Ma et al., 2001). Raskauskas et al., (2010) stated that in order to prevent bullying, children and young people could be supported to develop empathy. Raskauskas et al., (2010) further suggested that this could even happen through students observing their teacher's behaviour in the classroom. Although, the findings within issue three have identified that high levels of moral disengagement have a greater effect on accidental bullying than low levels of kindness. Therefore, prevention programmes may wish to support individual's moral agency development rather than solely focusing on empathy (Almeida et al., 2010). A study by Thornberg and Jungert (2013) identified that practitioners could tackle the key mechanisms that lead to moral disengagement by improving student's moral sensitivity and judgement. The present study also identified that unintentional verbal bullying was one of the most common forms of accidental bullying. Although, researchers have commented that verbal bullying is hard to identify which can lead to difficulties for educators to combat verbal bullying in school (Rivers & Smith, 1994). Therefore, educators need to be trained to identify students showing signs of different forms of aggression including verbal aggression (Ma et al., 2001)

Strengths and Limitations

In order to determine the reliability and validity of the study, it is important to critically evaluate the strengths and the limitations of the research. (Burns & Grove 1997; Valente, 2003). Therefore, key elements of this study will now be critiqued to identify any factors that they may have affected the overall findings. The study used a convenience sample of 421 participants who were aged between 10 and 14 years old. Salmivalli, Lagerspetz, and Bjorkqvist (1996), has warned researchers that teenagers may provide more accurate and honest responses than younger children. Salmivalli et al., (1996) further stated that this may be due to children underestimating the frequency of bullying. If this is correct, then the frequency of accidental bullying in primary schools may be happening at higher rate than identified in the study. However, Salmivalli et al.,(1996) came to this conclusion when they were measuring traditional bullying. In fact, Salmivalli et al., (1996) may have identified accidental bullying, as the participants in their study may have underestimated their bullying behaviours due to not understanding what constitutes as bullying. Therefore, a key strength of this present study is that it has measured a form of bullying that has not previously been academically considered.

Hardy, Jones, and Gould, (1996) also identified that participants with learning disabilities may find completing self-report questionnaires difficult. It is possible that participants with learning difficulties may have underestimated or overestimated their experiences which will may have affected the accuracy of the data. During the planning of this study, participants reading ability was

considered, and a decision was made for researchers to read out questionnaire to support participants complete the questionnaire to the best of their ability. This decision helped to strengthen the reliability and validity of the results. Although, no procedure was put in place to support participants with learning difficulties. Therefore, future studies may benefit from supporting individuals with learning difficulties through implementing different procedure such as additional time allowances.

In addition to this, Oppenheimer, Meyvis and Davidenko (2009) suggested that the results of the study may have also been affected by participant's levels of motivation. Oppenheimer et al., (2009) further explained that as understood in the theory of satisficing, some of the participants may have selected the easiest response option to in order to minimise their cognitive effort. Moreover, a longitudinal study by Raine and Venables (2017) identified that young people who were prone to anti-social behaviours reported high levels of daytime sleepiness and low levels of concentration. Taken together, this evidence suggests that some of the participants within the present study who were prone to anti-social behaviours like bullying, may have provided incorrect responses in order that they could minimise their cognitive effort because of their daytime sleepiness and lack of concentration. Therefore, a key limitation of this study is that some of the questionnaire responses may have been inaccurate. This study would have been strengthened by measuring the level of concentration of participants, and by ensuring that the research task is appropriate to the individual capability of the participants.

This study relied on a self-report measure to collect data from the participants. According, to Claros and Sharma (2012) the participants responses may have been affected by a social desirability bias where participants may have provided inaccurate evidence in order for them to be seen favourably. This view is supported by Nederhof (1985) who identified that social desirability may affect up to 75% of the accuracy of a participant's responses. Although, whilst the study relied on a self-report questionnaire, the study was also anonymous to help remove issues of social desirability. Chan and Wang (2015) stated that anonymity can help to avoid common issues within research methodology. Therefore, the study has successfully supported participants to answer accurately by ensuring that the participant's responses remain anonymous. However, another key issue that may affect the quality of the self-report data is recall bias (Cozby & Bates, 2015). Jolliffe and Farrington (2007) agreed and stated that participants may misreport information due to poor recollection of previous events. If this is correct, this would have negatively affected the accuracy of the data. In addition to this, Goldsmid and Howie (2014) argued that due to poor self-awareness, bullies may not always be aware when they bully others, and therefore, they are unable to report all bullying incidents within a research task. Consequently, Solberg and Olweus (2003) suggested that future studies should move away from using single methods to collect data to avoid issues such as recall bias and poor self-awareness. Therefore, this study would have been strengthened by also implementing peer reports to ensure reliable and valid data.

A key strength of this study is the use of hierarchical multiple regression which has enabled to identify the unique variance of key predictors and is widely

recognised as a sophisticated analysis tool amongst professional researchers (Pallant, 2013). Although, a potential limitation of the study is that it used single-item measures. For example, in order to measure an individual's ability to recognise bullying behaviours, participants were asked to read a scenario and were asked once whether the scenario should be classified as bullying. McCuddy and Esbensen (2016) stated that a possible limitation of measures such as this is that it only investigates a specific aspect of often a complex issue. Therefore, this study may have been strengthened by asking multiple questions, as it would have enabled the researcher to gain greater understanding, and ensure reliability (McCuddy and Esbensen, 2016). Further criticisms over the reliability of the scales have also been identified. It can be seen that out of the five scenarios used in the questionnaire, three of the scenarios show forms of verbal bullying (see table 5). Consequently, it may be argued that there is not an even distribution of the forms of bullying, and the scales created may inadvertently be measuring verbal bullying more than other forms. This may have consequently affected the quality of the data. In addition to this, an item on the victimisation scale did not clearly differentiate between their experience as a victim of traditional bullying and accidental bullying (see question E on table 7). Therefore, this scale may have partly measured traditional bullying. Consequently, this may have affected the accuracy and reliability of the results from the scale. Furthermore, this study would have been strengthened by ensuring that the scenarios provided equal examples of the different forms of bullying, and confirmed that all questions clearly differentiated between traditional and accidental bullying to ensure the reliability of the data.

Future Research

The present study has made several contributions to the field of bullying research by capturing evidence of accidental bullying, highlighting key predictors, as well as identifying gender and age differences within accidental bullying. To gain more knowledge of accidental bullying, further research is needed. In particular, there is a need for future research to investigate the differences and similarities between traditional and accidental bullying. This would enable practitioners to identify accidental bullies at the earliest stage possible to prevent future bullying. In addition to this, future studies may explore the interaction effect identified in issue four that suggested gender and age differences within levels of distorting negative consequences. Past studies have promoted the use of longitudinal study designs within the bullying research as they can help to identify key developmental stages rather than short glimpses into accidental bullying (Boulton, Trueman, Chau, Whitehand, & Amatya, 1999; Cozby & Bates, 2015). Therefore, researchers may wish to conduct a longitudinal study to identify the key stages of accidental bullying.

Another possible opportunity for an innovative research project would be to work alongside school students as ‘co-researchers’ to help investigate accidental bullying. Thompson and Gunter (2008) advised researchers that students as ‘co-researchers’ could help to design and evaluate the research project. In addition to this, participatory research would enable the voices of children and young people to be heard (Thompson & Gunter, 2008). This innovative approach would be especially relevant to accidental bullying research

as it has already been identified that adult definitions of bullying differ from children and young people's interpretations (Naylor et al., 2006). Taken together, this evidence demonstrates the need for participatory research to accurately explore the complexities of accidental bullying.

In addition to this, future studies may wish to consider what other methodology would be the most effective at capturing evidence of accidental bullying. Salmivalli & Nieminen (2002) suggested that self-report data is the most reliable method to establish the different forms of aggression in bullying. However, other researchers have argued that implementing multiple methodologies is more effective than just using self-report data (Chan & Wong, 2015). Goldsmid and Howie (2014) further argued that by implementing a combination of methodologies, researchers may be able to overcome common pitfalls within bullying research. For example, researchers using self-report questionnaires to ascertain intention, may be limited by participant's self-awareness (Goldsmid & Howie, 2014). Therefore, future studies investigating accidental bullying should employ multiple methodologies to help identify the unknown within accidental bullying that may be even hidden from accidental bullies themselves.

Conclusion

In conclusion, after 30 years of psychological research into bullying, accidental bullying may provide a plausible explanation for how seemingly 'good' students can bully others (Hymel et al., 2005). This study has aimed to conceptualise this controversial new sub-type of bullying by demonstrating why some individuals may struggle to ascertain moral judgement. The results showed that 84 % of the participants had previously accidentally bullied. Additionally, the results suggested that individuals may accidentally bully due to their own poor ability to recognise bullying behaviours, which may also be contributed by low levels of kindness and high levels of distorting negative consequences and cognitive restructuring. The study also identified gender and age differences that have helped to further explain the complexities of accidental bullying. Although, as the self-report questionnaires relied on the self-awareness of accidental bullies, it is likely that the true experiences of these individual's may have been underreported due to them not recognising their own bullying behaviours (Goldsmid & Howie, 2014). Therefore, future studies may need to implement innovative methodology to capture the realities of accidental bullying.

This study made a number of novel contributions including capturing initial evidence of accidental bullying in British schools. It has also proposed to theorists that the traditional characterisation of a bully, may not be an appropriately description for all bullies. Consequently, the practical implications of this study are that the theoretical explanations of accidental bullying could help to expose hidden forms of bullying within British schools. Furthermore, despite concerns

that emerging sub-types of bullying may contribute to the innovation fatigue of educators, the introduction of accidental bullying is set to expose once a hidden form of bullying within British schools (Lee, 2006). Although, in order to further understand the complexities of accidental bullying, perhaps researchers need to listen more to the true experts of bullying within British schools, the students themselves (Clark & Statham, 2005).

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Appendices Contents

Appendix A: Approved Ethics Application

University of Chester

DEPARTMENT OF PSYCHOLOGY APPLICATION TO DEPARTMENTAL ETHICS COMMITTEE

WHEN COMPLETING THE FORM PLEASE REFER TO THE DOP ETHICS PROCEDURAL GUIDELINES HANDBOOK.
UG AND PGT STUDENTS CAN ACCESS A COPY ON THEIR RELEVANT MOODLE PAGE.
PGR AND STAFF SHOULD CONTACT n.davies@chester.ac.uk or psychology_ethics@chester.ac.uk

1. Working title of the study

Notes: The title should be a single sentence

"Understanding Accidental Bullying Amongst School Students"

2. Applicant name and contact details

Notes: The primary applicant is the name of the person who has overall responsibility for the study. Include their appointment or position held and their qualifications. For studies where students and/or research assistants will undertake the research, the primary applicant is the student (UG, PGT, PGR) and supervisor is the co-applicant.

Jessica Pritchard – Masters student (PGT). 1719860@chester.ac.uk.

3. Co-applicants

Notes: List the names of all researchers involved in the study. Include their appointment or position held and their qualifications

Professor Mike Boulton – m.boulton@chester.ac.uk

4. Start and end dates of the study

Notes: The title should be a single sentence

April 2018 – October 2018

5. Is this project subject to external funding?

Notes: Please provide details of the funding body, grant application and PI.

No.

6. Briefly describe the purpose and rational of the research

Notes: (Maximum 300 words). In writing the rationale make sure that the research proposed is grounded in relevant literature, and the hypotheses emerge from recent research and are logically structured.
If this application is for a PGR/Staff funded project please attach any detailed research proposals as appropriate.

This project will focus on accidental bullying in school students as there is currently a lack of research to explain non-traditional forms of bullying.

This is a collaboration project between three postgraduate students (Myself, Harriet Titley, and Rebecca Halliday) and it is building upon Kiera Roberts (University of Chester Psychology undergraduate) dissertation project which has already gained ethical approval.

The other two co-applicants and I will consider perpetrators and victims gender, age and level of kindness.

Gender and Age Differences

Previous research surrounding intentional bullying has identified that there are gender differences amongst perpetrators and victims as well as trends in relation to age (Wang, Iannotti & Nansel, 2007; Scheithauer, Hayer, Petermann & Juggert, 2006). Therefore, research is needed to identify if there are also gender and age differences and similar trends within accidental bullying.

Kindness: Appendix B, Section 7

A previous study by University of Chester undergraduate student, Keira Roberts, identified that levels of empathy were a predictor of accidental bullying perpetration. This study will attempt to replicate this effect with a wider age range.

The other two researchers will then go on to investigate if peer-groups and humour can influence accidental bullying. My personal contribution will examine the role of bystanders and consider evidence of perpetrator moral disengagement.

Bystander: Appendix B, questions 1b, 2b and 3b

Bystander literature largely focuses on whether or not bystanders should intervene or not (Thornberg et al., 2012. Although, this study will question if the contribution of bystanders can be categorised as a sub-type of accidental bullying.

Moral Disengagement: Appendix B, Section 6

Wang et al., (2017) identified that bullies can sometimes blame the victim which is a form of moral disengagement. This study will collect evidence of different forms of moral disengagement and consider how this could predict bullying perpetration.

7a. Describe the methods and procedures of the study

Notes: (Maximum 500 words) Attach any relevant material (questionnaires, supporting information etc.) as appendices and summarise them briefly here (e.g. Cognitive Failures Questionnaire: a standardised self-report measure on the frequency of everyday cognitive slips). Do not merely list the names of measures and/or their acronyms. Include information about any interventions, interview schedules, duration, order and frequency of assessments. It should be clear exactly what will happen to participants. If this is a media based study describe and list materials include links and sampling procedure.

The proposed project includes a convenient sample of approximately 300 participants as we are aiming for around 100 participants each. However, if circumstances (e.g. time restraints) allow we may aim for a bigger sample. All co-applicants are handing out the whole questionnaire, but we will only analyse the results from our own sections in our dissertation (see section six of this form for co-applicant section breakdown). We are focusing on students in years five-eight from two primary schools, and two secondary schools across England and Wales. Consent will be gained by the head teacher as well as verbally on the day of data collection by the children. The researcher will have prepared an information sheet to read out to participants; this will also be the front page of the questionnaire (Appendix A). Participants will receive a self-report questionnaire (Appendix B) presenting them with scenarios and questions on accidental bullying subtypes, which will assess their views on peer group influences, forms of moral disengagement, humour, and kindness. Researchers will visit the participating schools to brief students on the study and administer the questionnaire, which will be collected once completed. Questionnaires will be handed out in envelopes and will be returned in the same way, to ensure anonymity. A debrief (Appendix C) will be read by the researcher and handed to participants on completion of the questionnaire. This will contain useful information for the students should they need any advice.

The measures in the questionnaire have scientific merit, and can be tested. It is proposed that the analysis will involve analysis of variance and multiple regression tests. This has been discussed and confirmed with the project supervisor.

7b. Provide details of your contingency plan

Notes: Please briefly describe your contingency plan. (100 words)

Collecting data from schools may mean that one of the four schools may not be able to fit the researcher into the school day at an appropriate time. The contingency plan then involves contacting additional schools from the area to see if they can assist in the research. This will hopefully then account for the lost data from the previous school. However, if this is not possible, then the benefit from collecting data from fours schools (approximately 300 students)

means there will still be sufficient data provided from the other 3 school (150 students).

8. Provide details of the previous experience of the procedures by the person conducting the study.

Notes: Say who will be undertaking the procedures involved and what training and/or experience they have. If supervision is necessary, indicate who will provide it.

This project will be supervised by Professor Mike Boulton.

9. Describe the ethical issues raised by this study and discuss the measures taken to address them.

Notes: Describe any discomfort or inconvenience that participants may experience. Include information about procedures that for some people could be physically stressful or might impact on the safety of participants, e.g. interviews, probing questions, noise levels, visual stimuli, equipment; or that for some people could be psychologically stressful, e.g. mood induction procedures, tasks with high failure rate, please include your distress protocol. Discuss any issues of anonymity and confidentiality as they relate to your study, refer to ethics handbook and guidance notes at the end of the form. If animal based include ethical issues relating to observation.

Before completing the questionnaire, the researcher will read aloud an information sheet. The information sheet will also be attached to the questionnaire itself on the front page (Appendix A). This will outline the nature of the study and the ethical procedures which will be followed. While the head teacher and/or parents and guardians would have consented to the questionnaire beforehand, the participants will consent to take part verbally before completing the questionnaire. This is so other children, the researcher, and any present school staff cannot tell who is participating and who is not participating. Participants will not be required to give any identifiable information (e.g. name, age) during the study, and their questionnaires will be handed back in a blank envelope. Participants responses will, therefore, be anonymous.

Questionnaires will be completed in test conditions, so participants do not share their answers, and so that they can answer more honestly. Options to sit alone will be provided. The right to withdraw will be explained to all participants before beginning their questionnaire. They are also told they do not have to take part if they do not wish to. If participants do not wish to complete the questionnaire, they will be given the option to doodle instead. It will, however, be made clear that once the questionnaires have been collected, they will no

longer able to withdraw their data. This will be explained by the researcher when reading out the information sheet.

Once collected, data will remain in their sealed envelopes until analysis is conducted on them. They will be stored in a locked draw that only researchers have access to when not being used.

Participants will be told that the nature of the study is to gain understanding about accidental bullying. It is believed that the participants will experience no or minimal psychological distress. Scenarios provided are not explicitly detailed

and have vague content (Appendix B). The participants are also given the option not to answer if they wish.

A debrief will be given by the researcher and given to participants (Appendix C), once all questionnaires are handed in. Places of further support will be provided if needed which include meeting with teachers and contact details for Childline.

10. Describe the participants of the study.

Notes: Describe the groups of participants that will be recruited and the principal eligibility criteria and ineligibility criteria. Make clear how many participants you plan to recruit into the study in total.

Participants will include students from two primary schools, and two secondary schools from across England and Wales. Students approached will be in years, five to eight (ages 8-13). The four schools will provide a minimum of approximately 300 participants. However, if more students are available (and if circumstances allow) then more participants may be recruited. Data will only be collected from students in those year groups.

11. Describe the participant recruitment procedures for the study.

Notes: Gives details of how potential participants will be identified or recruited, please list any social media platforms that you will use and the message. Include all other advertising materials (posters, emails, letters, verbal script etc.) as appendices and refer to them as appropriate. Describe any screening examinations. If it serves to explain the procedures better, include as an appendix a flow chart and refer to it.

Recruitment procedures include contacting primary and secondary schools from across England and Wales. Four schools will be selected on the basis of convenience for the researchers.

The schools will be contacted by telephone (Appendix D), direct to the head teachers for permission. Once provisional consent has been given, an email (Appendix E) will be sent for confirmation and to explain the aims of the study.

The participants will be selected through an opportunity sample whereby those who are present in the class that day and those who choose to take part.

12. Describe the procedures to obtain informed consent

*Notes: Describe when consent will be obtained. If consent is from **adult participants**, give details of who will take consent and how it will be done. If you plan to seek informed consent from **vulnerable groups** (e.g. people with learning difficulties, victims of crime), say how you will ensure that consent is voluntary and fully informed.*
*If you are recruiting **children or young adults** (aged under 18 years) specify the age-range of participants and describe the arrangements for seeking informed consent from a person with parental responsibility. If you intend to provide children under 16 with information about the study and seek*

agreement, outline how this process will vary according to their age and level of understanding.
How long will you allow potential participants to decide whether or not to take part? What arrangements have been made for people who might not adequately understand verbal explanations or written information given in English, or who have special communication needs?
If you are not obtaining consent, explain why not.

Head teachers can give consent as they are legally responsible for students. However, if refused, letters will be sent to parents/guardians asking for consent, this will be produced by the school. There are two options; active-consent expects guardians to return a form with their permission, whereas passive-consent requires a form to be returned if they object to participation. Ideally, passive consent will be used but, this is the choice of the head teacher. Active-consent forms give lower response rates, but due to using a large sample from four schools it will still provide sufficient data.

In addition to this, participants will have an information sheet read out to them prior to filling in the questionnaire (Appendix A), they will then be given the opportunity to ask any questions. The participants will be made aware that by filling out the questionnaire, they are giving consent. They will also be told that if they change their mind once they have started the questionnaire, they will be able to withdraw with no explanation needed. They will also have the option not to answer questions if they do not feel comfortable once the study has begun.

13. Will consent be written?

Yes ☐ No ☒

*Notes: If **yes**, include a consent form as an appendix. If **no**, describe and justify an alternative procedure (verbal, electronic etc.) in the space below. Guidance on how to draft Participant Information sheet and Consent form can be found on PS6001 Moodle space and in the Handbook.*

As mentioned in question 12, informed consent from head teachers and/or parents/guardians will be provided by the head teachers, in the form of an official email or letter if required. In addition to this, by completing the questionnaire, the children have also consented to take part.

14. Describe the information given to participants. Indicate if and why any information on procedures or purpose of the study will be withheld.

Notes: Include an Information Sheet that sets out the purpose of the study and what will be required of the participant as appendices and refer to it as appropriate. If any information is to be withheld, justify this decision. More than one Information Sheet may be necessary.

Participants will be told the study will be looking at views on accidental bullying to identify whether children recognise it as a form of bullying, and to identify predictors and outcomes. No information will be withheld from the participants as an information sheet will be read out to the before completing the questionnaire, they can also ask any questions they may have.

15. Indicate if any personally identifiable information is to be made available beyond the research team. (eg: a report to an organisation)

Notes: If so, indicate to whom and describe how confidentiality and anonymity will be maintained at all stages.

No, all information will be kept anonymous. Head teachers will be offered the opportunity to read the final written report, so they are aware of the findings as a whole.

To maintain confidentiality and anonymity at all times, no personal information will be requested from the participants during the research. All questionnaires will be handed out in blank envelopes and will be returned in the same way. They will then be stored in a locked draw, which can only be accessed by the researchers.

16. Describe any payments, expenses or other benefits and inducements offered to participants.

Notes: Give details. If it is monetary say how much, how it will be paid and on what basis is the amount determined. Indicate RPS credits.

Participants will not receive payments or benefits for the research. The schools will be told that they are contributing to research which they may find interesting and that they will be offered the opportunity to read the final report.

17. Describe the information about the investigation given to participants at the end of the study.

Notes: Give details of debriefings, ways of alleviating any distress that might be caused by the study and ways of dealing with any clinical problem that may arise relating to the focus of the study.

Participants will be debriefed (Appendix C) at the end of the questionnaire, informing them of places they can receive further support and information. They will be told to speak to teachers should they experience any discomfort. Further support will be recommended, such as Childline, if participants do wish to stay anonymous.

18. Describe data security arrangements for during and after the study.

Notes: Digital data stored on a computer requires compliance with the Data Protection Act; indicate if you have discussed this with your supervisor and describe any special circumstances that have been identified from that discussion. Say who will have access to participants' personal data and for how long personal data will be stored or accessed after the study has ended.

The questionnaires will be given to participants in a blank envelope and will be returned in the same envelope but sealed. Questionnaires will be filled out in classes, but participants will be asked to sit them in test conditions. This is so they cannot share answers and so they can answer honestly. Options to sit alone will also be given. Once the questionnaires are returned, they will be stored in a locked draw which can only be accessed by the researcher themselves. Data will only be kept until completion of the researcher's degree.

SIGNATURES OF THE RESEARCH TEAM		
Notes: The primary applicant and all co-applicants must sign and date the form. Scanned or electronic signatures are acceptable.		
Jessica Pritchard	Harriet Titley	Rebecca Haliday
07/03/2018	08/03/2018	08/03/2018

Ethics Approval Email:

Ethical Approval Application

P psychologyethics <psychology_ethics@chester.ac.uk>
Fri 3/9, 1:23 PM
JESSICA PRITCHARD

Inbox

Hi Jessica
Your ethics application form has been received and is now in the review process.
I will contact you again once the outcome has been decided by the Committee.
Kind regards

Carol

Carol Leach
Departmental Secretary
RPS & Ethics Administrator
Chritchley 016
Ext 1433

department of psychology

Appendix B: Approved Amendment Ethics Application

University of Chester

UNIVERSITY OF CHESTER, DEPARTMENT OF PSYCHOLOGY
APPLICATION FOR ETHICAL APPROVAL AMENDMENT FORM

A) Applicant and personnel

Applicant: *Jessica Pritchard*
Project title: *Understanding Accidental Bullying Amongst School Students*
Applicant status: ☐ Staff → Go to Section B ☐PGR ☐Undergraduate ☒Postgraduate taught
Supervisor: *Professor Mike Boulton*

B) Declaration

1. ☐ I have submitted an application for ethical approval to the Department of Psychology Ethics Committee and I am required to make the following amendments to my application.
   List the recommendations of the committee. *Click here to enter text.*
   Describe how you have addressed these requirements. *Click here to enter text.*

2. ☒ I have submitted an application for ethical approval to the Department of Psychology Ethics Committee that was approved on 26/03/2018
   I wish the committee to consider the following amendments I would like to make to the research plan (attach the original approved application form)
   This study is a collaborative research project that is investigating accidental bullying in primary and secondary schools. The original application form stated that research questionnaires would be completed by pupils in years 5, 6, 7 and 8. I would like to extend the age limits of the participants in the research study to enable the research team to also engage with year 9 students. This is due to timetabling complications at the selected secondary schools that is delaying the research team to work with years 7 and 8. If this amendment is approved, it would allow the research team to engage with up to 300 more participants.

☐ I am a member of staff. **Signed:** _____
Date: Click here to enter a date.
Print the amendment form on BLUE PAPER and submit to the Dept. Office
☒ I am an UG/PGT/PGR student. I have discussed any amendments with my project supervisor.
Print the amendment form on BLUE PAPER and submit to the Dept. Office

Signed: _____ **(Lead Applicant)**
Date: 05/07/2018

Supervisor comments:
I have discussed the recommendations of the committee with the applicant and I am satisfied they have met the stated requirements./I support the amendments to the research plan. (delete as appropriate)

☐ Yes Sign and date the form ☐ No Comments:

Signed: _____ **(Supervisor)**
Date:

SIGN HERE

Appendix C: Questionnaire

Please note that the following participant questionnaire is not in official format.

Demographic Questions

Please circle your year group:

Year five Year Six Year Seven Year Eight

Please circle your gender:

Female Male Rather not say Other

Accidental Bullying Hypothetical Questions

Scenario A:

Ben's friends did not like Kyle, and used to call Kyle mean names. Ben liked Kyle and did not agree with his friend's name calling, however Ben joined in with his friends because he did not want to be left out. Kyle was upset.

A1) Do you think that Ben is a bully for joining in, even though he did not want to?

Yes No I'm not sure

A2) Would you think Ben was a bully if he just laughed instead of joining in with the name calling?

Yes No I'm not sure

A3) Would you feel bad if you called someone names, even if your friends did not feel bad?

Yes No I'm not sure

A4) Would you call someone names just to fit in with your friends?

Yes No I'm not sure

A5) Do you feel that you have to agree with your friends, even when you may not feel the same?

Yes No I'm not sure

A6). Have you ever called someone names before, without meaning to upset them?

Yes No I'm not sure

A7). Has anyone called you names before, but then said that they did not mean to upset you?

Yes No I'm not sure

Scenario B:

Beth and her friends were playing in the park with a football when Lucy walked by. Beth's friends did not like Lucy, however Beth and Lucy were friends. Beth's friends asked Beth to throw a ball at Lucy. Beth threw the ball, even though she really did not want to. Lucy was hurt.

B1) Do you think that Beth is a bully for joining in, even though she did not want to?

Yes No I'm not sure

B2) Would you think Beth was a bully if she just gave the ball to her friend to kick at Lucy?

Yes No I'm not sure

B3) Would you feel bad if you had hurt someone, even if your friends did not feel bad?

Yes No I'm not sure

B4) Would you hurt someone just to fit in with your friends?

Yes No I'm not sure

B5) Do you feel that you have to agree with your friends, even when you may not feel the same?

Yes No I'm not sure

B6) Have you ever hurt someone before, without meaning to hurt them?

Yes No I'm not sure

B7) Has anyone hurt you before, but then said that they did not mean to hurt you?

Yes No I'm not sure

Scenario C:

Adam posted a picture on social media. Lisa's friends did not like Adam, however Lisa and Adam were friends. Lisa's friends posted mean comments on the photos. Lisa joined in with the mean comments because she did not want her friends to leave her out. Adam was upset.

C1). Was Lisa a bully for joining in, even though she didn't want to?

Yes No I'm not sure

C2). Would you think Lisa was a bully if she just liked her friend's comments instead of writing her own comment?

Yes No I'm not sure

C3). Would you feel bad if you were mean to someone on social media, even if your friends did not feel bad?

Yes No I'm not sure

C4) Would you be mean to someone on social media just to fit in with your friends?

Yes No I'm not sure

C5) Do you feel that you have to agree with your friends, even when you may not feel the same?

Yes No I'm not sure

C6) Have you ever said something hurtful online before, without meaning to be nasty?

Yes No I'm not sure

C7) Has anyone said mean things online to you before, but then said that they did not want to upset you?

Yes No I'm not sure

Scenario D

You're in the playground at break time and you hear Jack say something nasty about Billy's new haircut. Jack tells Billy that he was just joking and didn't mean it.

D1) Do you think that Jack said it as a joke?

Yes No I'm not sure

D2) Do you think Billy's feelings will be hurt by what Jack said?

Yes No I'm not sure

D3). Has anyone ever hurt your feelings by saying a nasty comment, that was meant as a joke?

Yes No I'm not sure

D4) Have you ever hurt anyone's feelings by saying a nasty comment, that was meant as a joke?

Yes No I'm not sure

D5) Do you think Jack is a bully?

Yes No I'm not sure

Scenario E

You're in the playground at lunchtime and you hear Jane say a nasty comment about Beth's trainers. Jane says "I was just joking".

E1) Do you think that Jane said it as a joke?

Yes No I'm not sure

E2) Do you think Beth's feelings will be hurt by what Jane said?

Yes No I'm not sure

E3) Has anyone ever made a nasty comment about your clothes?

Yes No I'm not sure

E4) Have you ever made a nasty comment about someone else's clothes?

Yes No I'm not sure

E5) Do you think Jane is a bully?

Yes No I'm not sure

Section F Moral Disengagement Scale (Hymel, Rocke-Henderson & Bonanno, 2005).

F1) Adults at school should be responsible for protecting kids from being bullied

Yes No I'm not sure

F2) When I see another kid being bullied, there is nothing I can do it stop it

Yes No I'm not sure

F3) If another kid is being bullied, I should do something to stop it happening

Yes No I'm not sure

F4) Some kids need to get picked on to teach them a lesson

Yes No I'm not sure

F5) Getting bullied can make kids toughen up

Yes No I'm not sure

F6) Some bullies are funny and they make school fun

Yes No I'm not sure

F7) In my group of friends, bullying is okay

Yes No I'm not sure

F8) Bullying is just a normal part of growing up

Yes No I'm not sure

F9) If your friend is picking on someone, it is okay to join in

Yes No I'm not sure

Child, Youth and Adult Compassion Scale (Boulton, Personal Communication).

F10) If you see that someone is upset, would you feel like helping them?

Yes No I'm not sure

F11) If another person has problems, would you want to do something to help them feel better?

Yes No I’m not sure

F12) If someone is having troubles, would you try to show that you care about them?

Yes No I’m not sure

Appendix D: Email Invitation to Schools

Dear (Insert Name Here),

My name is Jessica Pritchard and I writing to you to inform you of an exciting research opportunity about a new development in Bullying.

We are attempting to understand a term called ‘Accidental Bullying’ where a victims hurt or distress is not as a result of hostile intentions from a perpetrator. We believe this form of bullying may be taking place every day in schools because children do not realise the consequences of the things they say and do.

At this stage, we are currently identifying local Schools who may be interested in taking part in this research study. For schools who take part in the study, it will mean allowing one of the research team to come into your school in the Summer Term and do a quick 15 minute questionnaire with as many classes as possible. At the end of the study, we will inform you of the research results to help you and your team better understand the needs and experiences of pupils at your school.

As a Post Graduate student at the University of Chester, I am completing this study as part of a collaborative team, and it will also inform my research dissertation for my course in Psychology (Conversion) MSc.

I have worked in special education and alternative provision for the last six years, so I understand the demands of a busy school. If you do decide to take part in the study, I will ensure it is done with as little disruption as possible.

If you are interested in finding out more about this exciting research opportunity, please get in touch, and I will be happy to discuss this further with you.

Best wishes,

Jessica Pritchard

Appendix E: Questionnaire Information Sheet

The following information was read aloud and given to the participants:

We would like to invite you to take part in a research project. We think you will be able to help us by increasing our awareness about accidental bullying and wellbeing of students within schools. We want to know about your views on bullying based on the scenarios given to you in the questionnaire. We also want to know if we can identify predictors or outcomes of this form of bullying. We will be collecting this information in class. You will have the chance to complete a 30-minute questionnaire that will be given to you in an envelope. There is no need to copy anyone else's answers because this is NOT a test and there are no right or wrong answers. Therefore, try to make sure that other people cannot see your answers.

We do not think the questions are distressing, but if you do feel affected by any of the questions, you might want to tell a teacher, trusted adult or contact your student support service. Or ChildLine (call 0800 1111 or visit: www.childline.org.uk where you can speak to someone helpful).

You do not have to take part if you do not wish to, and you can stop at any time without giving us a reason. If you think you don't want to answer some questions that is fine too. Remember, this is NOT a test. It is up to you how many questions you want to answer. If you do complete the questionnaire, then your answers will become part of our study because nobody will know who has answered what questions. Once the questionnaires have been collected, it is too late to ask not to be included.

If you have any questions or concerns please ask now.

Appendix F: Questionnaire debrief sheet

The following information was read aloud and the contact information was given to the participants.

Our aim is to gain more understanding about accidental bullying. To ensure the wellbeing of young people within schools, we want to find predictors and outcomes of this type of bullying. We would like to start by thanking you for taking part in our research by completing the questionnaire. Again we would like to reiterate:

- All of your information will remain anonymous and confidential and will not be seen by anyone else.
- If you would like to read our finished research report, then you can send a request by contacting the researchers via email.
- Once the questionnaires have been collected, it is too late to ask not to be included.
- If you have felt any kind of discomfort when completing this questionnaire, then there are people available to meet and talk with you if you so wish; details are as follows:
    - Your own teachers and school support services
    - Childline: call 0800 1111 or visit: www.childline.org.uk where you can speak to someone helpful.

Appendix G: Summary of Hypotheses and Research Questions

Issue One:

Theme	Type	Inquiry
Accidental Bully	Research Question	1a) What percentage of children and young people have previously accidentally bullied?
Victim	Research Question	1b) What percentage of children and young people have experienced victimisation of accidental bullying?
Forms of Bullying	Research Question	1c) What is the most common form of accidental bullying?

Issue Two:

Theme	Type	Inquiry
Collective	Hypothesis	2a) That an individual's ability to recognise bullying behaviours will be able to predict if an

		individual is likely to participate in accidental bullying as a bully.

Issue Three:

Theme	Type	Inquiry
Collective	Hypothesis	3a) That low levels of kindness and high levels of moral disengagement through minimising agency, distorting negative consequences, and cognitive restructuring can collectively predict that an individual has a poor ability to recognise bullying behaviours.
Kindness	Hypothesis	3b) That low levels of kindness will account for a unique variance of an individual's poor ability to recognise bullying behaviour.
Minimising Agency	Hypothesis	3c) That high levels of minimising agency will account for a unique variance of an individual's poor ability to recognise bullying behaviour.
Distorting Negative Consequences	Hypothesis	3d) That high levels of distorting negative consequences will account for a unique variance of an individual's poor ability to recognise bullying behaviour.

Cognitive Restructuring	Hypothesis	3e) That high levels of cognitive restructuring will account for a unique variance of an individual's poor ability to recognise bullying behaviour.

Issue Four:

Theme	**Type**	**Inquiry**
Accidental Bully	Hypothesis	4a) That male students will be more likely to participate in accidental bullying as a bully than female students.
	Hypothesis	4b) That primary school students will be more likely to participate in accidental bullying as a bully than secondary school students.
	Research Question	4c) Will there be an interaction effect between the gender and age of accidental bullies?
Verbal Bullying	Hypothesis	4d) That female students will be more likely to commit accidental verbal bullying than male students.
	Hypothesis	4e) That secondary school students will be more likely to commit accidental verbal bullying than primary school students.

	Research Question	4f) Will there be an interaction effect between the gender and age for accidental verbal bullying?
Physical Bullying	Hypothesis	4g) That male students will be more likely to commit accidental physical bullying than female students.
	Hypothesis	4h) That secondary school students will be more likely to commit accidental physical bullying than primary school students.
	Research Question	4i) Will there be an interaction effect between the gender and age for accidental physical bullying?
Recognising Bullying Behaviour	Hypothesis	4j) That female students will be more likely to have a better ability to recognise bullying behaviours than male students.
	Hypothesis	4k) That secondary school students will be more likely to have a better ability to recognise bullying behaviours than primary school students.
	Research Question	4l) Will there be an interaction effect between the gender and age of individuals with a high ability to recognise bullying behaviours?

Kindness	Hypothesis	4m) That female students will be more likely to have higher levels of kindness than male students.
	Hypothesis	4n) That secondary school students will be more likely to have higher levels of kindness than primary school students.
	Research Question	4o) Will there be an interaction effect between the gender and age of individuals with high levels of kindness?
Minimising Agency	Hypothesis	4p) That male students will be more likely to have low levels of minimising agency than female students.
	Hypothesis	4q) That secondary school students will be more likely to have low levels of minimising agency than primary school students.
	Research Question	4r) Will there be an interaction effect between the gender and age of individuals with high levels of minimising agency?
Distorting Negative Consequences	Hypothesis	4s) That male students will be more likely to have low levels of distorting negative consequences than female students.

	Hypothesis	4t) That secondary school students will be more likely to have low levels of distorting negative consequences than primary school students.
	Research Question	4u) Will there be an interaction effect between the gender and age of individuals with high levels of distorting negative consequences?
Cognitive Restructuring	Hypothesis	4v) That male students will be more likely to have low levels of cognitive restructuring than female students.
	Hypothesis	4w) That secondary school students will be more likely to have low levels of cognitive restructuring than primary school students.
	Research Question	4x) Will there be an interaction effect between the gender and age of individuals with high levels of cognitive restructuring

Appendix H: 31-Items of the Questionnaire Submitted for Analysis

Theme	Question	
Demographics	0	What is your gender?
	0	What school year are you in?
Perpetrator of Accidental Bullying Scale	A(6)	Have you ever called someone names before without meaning to upset them?
	B(6)	Have you ever hurt someone before without meaning to hurt them?
	C(6)	Have you ever said something hurtful online before without meaning to be nasty?
	D(4)	Have you ever hurt anyone's feelings by saying a nasty comment, that was meant as a joke?
	E(4)	Have you ever made a nasty comment about what clothes someone else wears?
Victim of Accidental Bullying Scale	A(7)	Has anyone called you names before, but then they said that they did not mean to upset you?
	B(7)	Has anyone hurt you before, but then they said that they did not mean to hurt you?
	C(7)	Has anyone said mean things online to you before, but then they said that they did not want to upset you?
	D(3)	Has anyone ever hurt your feelings by saying a nasty comment, that was meant as a joke?
	E(3)	Has anyone ever made a nasty comment about what you wear?
Forms of Bullying Scale	A(6)	Have you ever called someone names before without meaning to upset them?
	B(6)	Have you ever hurt someone before without meaning to hurt them?
Recognising Bullying Behaviours of Bullies Scale	A(1)	Do you think Ben is a bully for joining in, even though he did not want to?
	B(1)	Do you think Beth is a bully for joining in, even though she did not want to?
	C(1)	Was Lisa bully for joining in, even though she didn't want to?
	D(5)	Do you think Jack is a bully?
	E(5)	Do you think that Jane is a bully?
Moral Disengagement Scale		**Sub-scale: Minimising Agency Scale**
	F(1)	Adults at school should be responsible for protecting kids from being bullied.
	F(2)	When I see another pupil being bullied, there is nothing I can do to stop it.

	F(3)	If another pupil is being bullied, I should do something to stop it from happening.
		Sub-scale: Distortion of Negative Consequences
	F(4)	Some people need to get picked on to teach them a lesson.
	F(5)	Getting bullied can make people toughen up.
	F(6)	Some bullies are funny and they make school fun.
		Sub-scale: Cognitive Restructuring
	F(7)	In my group of friends, bullying is okay.
	F(8)	Bullying is just a normal part of growing up.
	F(9)	If your friend is picking on someone, it is okay to join in.
Child, Youth and Adult Compassion Scale		**Sub-scale: Kindness**
	F(10)	If you see that someone is upset, would you feel like helping them?
	F(11)	If another person has problems, would you want to do something to help them feel better?
	F(12)	If someone is having troubles, would you try to show that you care about them?

Appendix I: SPSS Outputs

Section 1: Preliminary Analysis

Kindness:

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.825	.824	3

Section 2: Descriptive Statistics

Descriptive statistics for the five scales:

Variable	N	Mean	Std. Deviation
Ability to recognise bullying	399	5.9925	2.90338
Kindness	410	5.3293	1.44546
Minimising Agency	406	3.7167	.98435
Distorting Negative Consequences	402	1.6219	1.72883
Cognitive Restructuring	406	.9286	1.30045
Perpetration of accidental bullying	394	.8401	.36698
Victimisation of accidental bullying	396	.9444	.22935
Verbal accidental bullying	411	.7032	.45742
Physical accidental bullying	414	.6570	.47528

Section 3: Testing for Issue One

Research Question 1a: Descriptive statistics for evidence of accidental bullying:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	63	15.0	16.0	16.0
	1.00	331	78.6	84.0	100.0
	Total	394	93.6	100.0	
Missing	System	27	6.4		
Total		421	100.0		

Research Question 1b: Descriptive statistics for evidence of victimisation of accidental bullying:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	22	5.2	5.6	5.6
	1.00	374	88.8	94.4	100.0
	Total	396	94.1	100.0	
Missing	System	25	5.9		
Total		421	100.0		

Research Question 1c: Descriptive statistics for common forms of accidental bullying.

Verbal Bullying

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	122	29.0	29.7	29.7
	1.00	289	68.6	70.3	100.0
	Total	411	97.6	100.0	
Missing	System	10	2.4		
Total		421	100.0		

Physical Bullying

		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	.00	142	33.7	34.3	34.3
	1.00	272	64.6	65.7	100.0
	Total	414	98.3	100.0	
Missing	System	7	1.7		
Total		421	100.0		

Section 4: Testing for Issue Two

Pearson's Correlation:

		B	RB
B	**Pearson Correlation**	1	-.203**
	Sig. (2-tailed)		.000
	N	394	388
RB	**Pearson Correlation**	-.203**	1
	Sig. (2-tailed)	.000	
	N	388	399

**. Correlation is significant at the 0.01 level (2-tailed).

Simple Linear Regression

The outcome variable is the scale measuring an individual's likelihood of participating in accidental bullying as a bully and the predictor is the scale measuring an individual's ability to recognise bullying behaviours.

Model Summary									
					Change Statistics				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**R Square Change**	**F Change**	**df1**	**df2**	**Sig. F Change**
1	.203[a]	.041	.039	.35734	.041	16.616	1	386	.000

a. Predictors: (Constant), Ability to recognise bullying behaviours.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.122	1	2.122	16.616	.000[b]
	Residual	49.288	386	.128		
	Total	51.410	387			

a. Dependent Variable: Perpetrator of accidental bullying

b. Predictors: (Constant), Ability to recognise bullying behaviours

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.994	.041		24.054	.000
	Recognise bullying	-.025	.006	-.203	-4.076	.000

a. Dependent Variable: Perpetrator of accidental bullying

Section 5: Testing for Issue Three

Pearson's Correlation:

		R	K	M	D	C
R	Pearson Correlation	1	.178**	.020	-.233**	-.215**
	Sig. (2-tailed)		.000	.700	.000	.000
	N	399	393	391	386	390
K	Pearson Correlation	.178**	1	.259**	-.347**	-.391**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	393	410	403	401	405
MA	Pearson Correlation	.020	.259**	1	-.095	-.119*
	Sig. (2-tailed)	.700	.000		.058	.018
	N	391	403	406	396	399
D	Pearson Correlation	-.233**	-.347**	-.095	1	.498**
	Sig. (2-tailed)	.000	.000	.058		.000
	N	386	401	396	402	398
C	Pearson Correlation	-.215**	-.391**	-.119*	.498**	1
	Sig. (2-tailed)	.000	.000	.018	.000	
	N	390	405	399	398	406

Notes: Variables abbreviated as "R" for ability to recognise accidental bullying, "K" for kindness, "M" for minimising agency, "D" for distorting negative consequences, and "C" for cognitive restructuring.

Simple Linear Regression for Kindness

The outcome variable was the scale measuring an individual's ability to recognise bullying behaviours and the predictor variable was the scale measuring kindness.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.178[a]	.032	.029	2.85875

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	104.567	1	104.567	12.795	.000[b]
	Residual	3195.422	391	8.172		
	Total	3299.990	392			

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	4.139	.541		7.645	.000
	KIND	.352	.098	.178	3.577	.000

Simple Linear Regression for Distorting Negative Consequences:

The outcome variable was the scale measuring an individual's ability to recognise bullying behaviours and the predictor variable was the scale measuring distorting negative consequences. Please note, distorting negative consequences is abbreviated as "D".

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.233[a]	.054	.052	2.80615

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	174.037	1	174.037	22.101	.000[b]
	Residual	3023.797	384	7.874		
	Total	3197.834	385			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	6.657	.197		33.837	.000
	D	-.387	.082	-.233	-4.701	.000

Simple Linear Regression for Cognitive Restructuring:

The outcome variable was the scale measuring an individual's ability to recognise bullying behaviours and the predictor variable was the scale measuring cognitive restructuring. Please note, cognitive restructuring is abbreviated to "C".

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.215[a]	.046	.044	2.82225

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	149.378	1	149.378	18.754	.000[b]
	Residual	3090.458	388	7.965		
	Total	3239.836	389			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	6.468	.176		36.673	.000
	C	-.472	.109	-.215	-4.331	.000

Hierarchical Multiple Regression with Kindness at step one:

The outcome variable was the scale measuring an individual's ability to recognise bullying behaviours and the predictor variables was the scale measuring kindness at step one**,** the scale measuring distorting negative consequences at step two, and cognitive restructuring at step three. Please note that the variables have been abbreviate as "K" for kindness, "D" for distorting negative consequences, and "C" for cognitive restructuring.

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.181[a]	.033	.030	2.83222	.033	12.897	1	380	.000
2	.249[b]	.062	.057	2.79292	.029	11.770	1	379	.001
3	.270[c]	.073	.066	2.77996	.011	4.543	1	378	.034

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	103.456	1	103.456	12.897	.000[b]
	Residual	3048.167	380	8.021		
	Total	3151.623	381			
2	Regression	195.265	2	97.632	12.516	.000[c]
	Residual	2956.359	379	7.800		
	Total	3151.623	381			
3	Regression	230.376	3	76.792	9.937	.000[d]
	Residual	2921.247	378	7.728		
	Total	3151.623	381			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	4.114	.553		7.434	.000
	K	.359	.100	.181	3.591	.000
2	(Constant)	5.278	.643		8.214	.000
	K	.233	.105	.118	2.217	.027
	D	-.304	.089	-.182	-3.431	.001
3	(Constant)	5.685	.667		8.517	.000
	K	.179	.108	.090	1.656	.099
	D	-.213	.098	-.128	-2.172	.030
	C	-.284	.133	-.126	-2.132	.034

Hierarchical Multiple Regression with distorting negative consequences at step one:

The outcome variable was the scale measuring an individual's ability to recognise bullying behaviours and the predictor variables was the scale measuring distorting negative consequences at stage one, cognitive restructuring at stage two and kindness at stage three. Please note that the variables have been abbreviated as "K" for kindness, "D" for distorting negative consequences, and "C" for cognitive restructuring.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change
1	.223[a]	.050	.047	2.80728	.050	19.910	1	380	.000
2	.258[b]	.066	.061	2.78634	.017	6.734	1	379	.010
3	.270[c]	.073	.066	2.77996	.007	2.741	1	378	.099

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	156.910	1	156.910	19.910	.000[b]
	Residual	2994.713	380	7.881		
	Total	3151.623	381			
2	Regression	209.191	2	104.596	13.472	.000[c]
	Residual	2942.432	379	7.764		
	Total	3151.623	381			
3	Regression	230.376	3	76.792	9.937	.000[d]
	Residual	2921.247	378	7.728		
	Total	3151.623	381			

Hierarchical Multiple Regression with Cognitive Restructuring at step one:

The outcome variable was the scale measuring an individual's ability to recognise bullying behaviours and the predictor variable was the scale measuring cognitive restructuring was entered at step one, kindness added at stage two and distorting negative consequences at stage three. Please note that the variables have been abbreviated as "K" for kindness, "D" for distorting negative consequences, and "C" for cognitive restructuring.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change
1	.224[a]	.050	.048	2.80646	.050	20.145	1	380	.000
2	.248[b]	.062	.057	2.79357	.011	4.516	1	379	.034
3	.270[c]	.073	.066	2.77996	.012	4.720	1	378	.030

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	158.663	1	158.663	20.145	.000[b]
	Residual	2992.960	380	7.876		
	Total	3151.623	381			
2	Regression	193.903	2	96.951	12.423	.000[c]
	Residual	2957.720	379	7.804		
	Total	3151.623	381			
3	Regression	230.376	3	76.792	9.937	.000[d]
	Residual	2921.247	378	7.728		
	Total	3151.623	381			

Section 6: Testing for Issue Four

Levene's Test for homogeneity of variance.

For the following tests, the independent variable were set as gender and age. Please note that the significance level was at 0.05.

Test I: Dependent variable as perpetrators of accidental bullying.

Levene's Test of Equality of Error Variances[a]

F	df1	df2	Sig.
25.453	3	347	.000

Test II: Dependent variable as verbal bullying.

Levene's Test of Equality of Error Variances[a]

F	df1	df2	Sig.
15.894	3	32	.000

Test III: Dependent variable as physical bullying.

Levene's Test of Equality of Error Variances[a]

F	df1	df2	Sig.
15.853	3	364	.000

Test IV: Dependent variable as the scale measuring an individual's ability to recognise bullying behaviours.

Levene's Test of Equality of Error Variances[a]

F	df1	df2	Sig.
4.121	3	352	.007

Test V: Dependent variable as the scale measuring an individual's level of kindness.

Levene's Test of Equality of Error Variances[a]

F	df1	df2	Sig.
8.393	3	360	.000

Test VI: Dependent variable as the scale measuring an individual's level of minimising agency.

Levene's Test of Equality of Error Variances[a]

F	df1	df2	Sig.
1.725	3	356	.161

Test VII: Dependent variable as the scale measuring an individual's level of diminishing negative consequences.

Levene's Test of Equality of Error Variances[a]

F	df1	df2	Sig.
2.114	3	353	.098

Test VIII: Dependent variable as the scale measuring an individual's level of cognitive restructuring.

Levene's Test of Equality of Error Variances[a]

F	df1	df2	Sig.
2.392	3	356	.068

Two-way between subjects ANOVA and Pair-wise Comparison Tests.

For the following tests, the independent variable were set as gender and age. Please note that the significance level is at 0.05.

Testing 4a, 4b, 4c: Dependent variable as the scale measuring participating in accidental bullying as a bully.

Descriptive Statistics

Gender	Age	Mean	Std. Deviation	N
Female	**Primary**	.9211	.27328	38

	Secondary	.7413	.43948	143
	Total	.7790	.41607	181
Male	**Primary**	.9318	.25497	44
	Secondary	.8889	.31552	126
	Total	.9000	.30089	170
Total	**Primary**	.9268	.26202	82
	Secondary	.8104	.39271	269
	Total	.8376	.36934	351

Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2.314[a]	3	.771	5.891	.001	.048
Intercept	189.635	1	189.635	1448.465	.000	.807
Gender	.392	1	.392	2.996	.084	.009
Age	.775	1	.775	5.923	.015	.017
Gender * Age	.293	1	.293	2.237	.136	.006
Error	45.430	347	.131			
Total	294.000	351				
Corrected Total	47.744	350				

a. R Squared = .048 (Adjusted R Squared = .040)

Pairwise Comparisons

(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b] Lower Bound	Upper Bound
Primary	Secondary	.111*	.046	.015	.021	.201
Secondary	Primary	-.111*	.046	.015	-.201	-.021

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Testing 4d, 4e, 4f: Dependent variable as the scale measuring accidental verbal bullying.

Descriptive Statistics

Gender	Age	Mean	Std. Deviation	N
Female	Primary	.7273	.45051	44
	Secondary	.5931	.49296	145
	Total	.6243	.48558	189
Male	Primary	.8261	.38322	46
	Secondary	.7328	.44418	131
	Total	.7571	.43007	177
Total	Primary	.7778	.41807	90
	Secondary	.6594	.47477	276
	Total	.6885	.46373	366

Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2.514[a]	3	.838	3.992	.008	.032
Intercept	140.522	1	140.522	669.522	.000	.649
Gender	.964	1	.964	4.595	.033	.013
Age_	.877	1	.877	4.177	.042	.011
Gender* Age	.028	1	.028	.135	.713	.000
Error	75.978	362	.210			
Total	252.000	366				
Corrected Total	78.492	365				

a. R Squared = .032 (Adjusted R Squared = .024)

Pairwise Comparisons

(I) Gender	(J) Gender	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b] Lower Bound	Upper Bound
Female	Male	-.119*	.056	.033	-.229	-.010
Male	Female	.119*	.056	.033	.010	.229

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Pairwise Comparisons

(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b] Lower Bound	Upper Bound
Primary	Secondary	.114*	.056	.042	.004	.223
Secondary	Primary	-.114*	.056	.042	-.223	-.004

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Testing 4g, 4h, 4i: Dependent variable as the scale measuring accidental physical bullying.

Descriptive Statistics

Gender	Age	Mean	Std. Deviation	N
Female	Primary	.7333	.44721	45
	Secondary	.5170	.50142	147
	Total	.5677	.49669	192
Male	Primary	.7826	.41703	46
	Secondary	.7231	.44921	130
	Total	.7386	.44063	176
Total	Primary	.7582	.43052	91
	Secondary	.6137	.48778	277
	Total	.6495	.47779	368

Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	4.416[a]	3	1.472	6.751	.000	.053
Intercept	129.938	1	129.938	595.951	.000	.621
Gender	1.115	1	1.115	5.116	.024	.014
Age	1.302	1	1.302	5.971	.015	.016
Gender * Age	.421	1	.421	1.929	.166	.005
Error	79.364	364	.218			
Total	239.000	368				

Corrected Total	83.780	367

a. R Squared = .053 (Adjusted R Squared = .045)

Pairwise Comparisons

(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b] Lower Bound	Upper Bound
Primary	Secondary	-.531*	.106	.000	-.739	-.322
Secondary	Primary	.531*	.106	.000	.322	.739

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Pairwise Comparisons

(I) Gender	(J) Gender	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a] Lower Bound	Upper Bound
Female	Male	.172	.106	.105	-.036	.381
Male	Female	-.172	.106	.105	-.381	.036

Based on estimated marginal means

a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Testing 4j, 4k, 4l: Dependent variable as the scale measuring an individual's ability to recognise bullying behaviours.

Descriptive Statistics

Age	Gender	Mean	Std. Deviation	N
Primary	**Female**	4.4000	3.10335	40
	Male	4.1190	3.17922	42
	Total	4.2561	3.12620	82
Secondary	**Female**	7.1781	2.38872	146
	Male	5.7969	2.73605	128

	Total	6.5328	2.64382	274
Total	**Female**	6.5806	2.79506	186
	Male	5.3824	2.93333	170
	Total	6.0084	2.92005	356

Tests of Between-Subjects Effects

Source	**Type III Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**	**Partial Eta Squared**
Corrected Model	458.881[a]	3	152.960	20.966	.000	.152
Intercept	7278.754	1	7278.754	997.675	.000	.739
Age	312.820	1	312.820	42.877	.000	.109
Gender	43.528	1	43.528	5.966	.015	.017
Age * Gender	19.073	1	19.073	2.614	.107	.007
Error	2568.093	352	7.296			
Total	15879.000	356				
Corrected Total	3026.975	355				

a. R Squared = .152 (Adjusted R Squared = .144)

Pairwise Comparisons

(I) Age	**(J) Age**	**Mean Difference (I-J)**	**Std. Error**	**Sig.[b]**	**95% Confidence Interval for Difference[b]**	
					Lower Bound	**Upper Bound**
Primary	**Secondary**	-2.228*	.340	.000	-2.897	-1.559
Secondary	**Primary**	2.228*	.340	.000	1.559	2.897

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Pairwise Comparisons

(I) Gender	**(J) Gender**	**Mean Difference (I-J)**	**Std. Error**	**Sig.[b]**	**95% Confidence Interval for Difference[b]**	
					Lower Bound	**Upper Bound**
Female	Male	.831*	.340	.015	.162	1.500

Male	Female	-.831*	.340	.015	-1.500	-.162

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Testing 4m, 4n, 4o: Dependent variable as the scale measuring an individual's level of kindness.

Descriptive Statistics

Gender	Age	Mean	Std. Deviation	N
Female	Primary	5.7209	.90831	43
	Secondary	5.5822	1.08759	146
	Total	5.6138	1.04882	189
Male	Primary	5.5556	1.30655	45
	Secondary	5.1769	1.54752	130
	Total	5.2743	1.49488	175
Total	Primary	5.6364	1.12630	88
	Secondary	5.3913	1.33721	276
	Total	5.4505	1.29218	364

Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	15.903[a]	3	5.301	3.233	.022	.026
Intercept	8090.144	1	8090.144	4934.63	.000	.932
Gender	5.425	1	5.425	3.309	.070	.009
Age	4.460	1	4.460	2.720	.100	.007
Gender* Age	.959	1	.959	.585	.445	.002
Error	590.207	360	1.639			
Total	11420.000	364				
Corrected Total	606.110	363				

a. R Squared = .026 (Adjusted R Squared = .018)

Testing 4p, 4q, 4r: Dependent variable as the scale measuring an individual's level of minimising agency.

**no longer justified.*

Testing 4s, 4t, 4u: Dependent variable as the scale measuring an individual's level of distorting negative consequences.

Descriptive Statistics

Age	Gender	Mean	Std. Deviation	N
Primary	**Female**	1.8049	1.83330	41
	Male	1.5000	1.62108	44
	Total	1.6471	1.72313	85
Secondary	**Female**	1.0552	1.47092	145
	Male	1.8661	1.68260	127
	Total	1.4338	1.62182	272
Total	**Female**	1.2204	1.58364	186
	Male	1.7719	1.66999	171
	Total	1.4846	1.64655	357

Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	49.443[a]	3	16.481	6.353	.000	.051
Intercept	626.380	1	626.380	241.462	.000	.406
Age	2.377	1	2.377	.916	.339	.003
Gender	4.139	1	4.139	1.595	.207	.004
Age * Gender	20.119	1	20.119	7.756	.006	.021
Error	915.722	353	2.594			
Total	1752.000	357				
Corrected Total	965.165	356				

a. R Squared = .051 (Adjusted R Squared = .043)

Testing 4v, 4w, 4x: Dependent variable as the scale measuring an individual's level of cognitive reconstructing.

Descriptive Statistics

Age	Gender	Mean	Std. Deviation	N
Primary	**Female**	.8333	.98567	42
	Male	.9318	1.12885	44
	Total	.8837	1.05628	86
Secondary	**Female**	.6621	1.04895	145
	Male	.9070	1.32548	129
	Total	.7774	1.19127	274
Total	**Female**	.7005	1.03495	187
	Male	.9133	1.27521	173
	Total	.8028	1.15991	360

Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	5.043[a]	3	1.681	1.252	.291	.010
Intercept	181.692	1	181.692	135.332	.000	.275
Age	.629	1	.629	.468	.494	.001
Gender	1.927	1	1.927	1.435	.232	.004
Age * Gender	.350	1	.350	.261	.610	.001
Error	477.954	356	1.343			
Total	715.000	360				
Corrected Total	482.997	359				

a. R Squared = .010 (Adjusted R Squared = .002)